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AGRICULTURE

No. 247

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I. GENERAL INFORMATION

NATIONAL GOAL OF QUADRUPLING OUTPUT HINGES ON AGRICULTURE

Beijing RENMIN RIBAO in Chinese 28 Dec 82 p 5

[Article by Luo Jingbai [5012 0513 2672]: "Progress in Science & Technology and the Quadrupling of Output Value"]

[Excerpt] How Do We Increase the Output Value of Agriculture?

The primary task of developing agriculture is to produce grain and solve the question of feeding the people. At present China's annual per capita grain is 600 jin or more. Is it possible and necessary to quadruple its output value? We have limited room for expanding the area under cultivation, so to increase grain output, we have to depend mainly on increasing the per-unit yield. It is very difficult to extensively quadruple the per-unit yield. Quadrupling grain output means that our per capita grain should total 2,500 jin. Also, it is not necessary to us. Our country has a huge population but a scarcity of arable land. In developing agriculture, we must not mechanically follow the pattern of the countries with sufficient per capita cultivated land, such as the United States, which use over 80 percent of their grain in developing animal husbandry. In light of our national conditions, it is assumed that by the year 2000, China's per capita grain will increase from the present 600 jin and more to 800 jin. If half of the sum is used as grain ration and grain varieties are mixed in proper proportions, it will be entirely possible to ensure the human body's needs for calories and most of its basic needs for protein nutrition. Except the part used as industrial grain, the remaining half is mainly used as feed in the breeding of poultry, domestic animals and fish. This demands an average annual increase of 2 percent in grain output. In accordance with the record of an average annual 2.4 percent increase in grain output between 1953 and 1980, this objective can be necessarily attained. For progress in agricultural production, we must rely on correct policies and the use of science. There is still a considerable potential in relying on correct policies but this potential is, after all, limited. This requires us to rely on the use of science and technology. The development and role of science and technology are boundless. For example, in recent years there has been an increase in rice output in the south. The reliance on the popularization of the hybrid rice, a result of the research of the Chinese agronomists, has played a great role in this respect. This item alone has registered an average increase of 8 billion jin annually, constituting

1.2 percent of the grain output in a year or an annual increase of 800 million yuan in output value. Recently, Yuan Longping, breeder of the hybrid rice, and others have succeeded in their researches for breeding a better hybrid species combination with new properties, thus again making new contributions to boosting production output. At present low and medium-yield areas account for 70 percent of the whole acreage under grain crops. Provided we carry out some farm capital construction projects and popularize the existing scientific and technical achievements in a manner suited to local conditions, we can ensure a very big increase in production output. However, we must strengthen scientific research and experiment in such fields as the breeding of improved seed strains, soil and fertilizers and cropping and cultivation methods and increase our reserves in science and technology in advance so as to more fully utilize soil fertility and solar energy and to constantly increase the per-unit yield of grain.

We must stabilize the existing area of cultivated land sown with grain crops and ensure the fulfillment of the plans for increasing grain output. However, agriculture will be unable to realize the objective of quadrupling its output value by relying exclusively on boosting grain output and on the 800 million peasants concentrating their labor on some billions of mu of cultivated land. We must break the narrow outlook of the small peasant economy, utilize the vast mountainous lands, hilly lands, grasslands, water surfaces, beaches and other natural resources, develop all kinds of farming and breeding industries and other diversified undertakings, operate the processing industry of farm produce and sideline products and tackle production work intensively and extensively. For instance, at present Sichuan Province has no more than 100 million mu of cultivated land but has more than 500 million mu of mountainous land, forest land and grassland and 10 million mu of water surface which have not yet been put to full use. Of the composition of the output value of agriculture throughout the province, the output value of forestry, animal husbandry, sideline occupations and fishery makes up only 35 percent. After the third plenary session of the 11th CPC Central Committee, some communes and their subdivisions put an end to the phenomena in which the people's attention and endeavors were concentrated on the limited cultivated land in the past, vigorously developed a diversified economy and increased their income 2 or 4 times within 3 or 4 years. It can thus be seen that the potential for boosting agricultural output value is enormous.

Developing every kind of breeding industry and giving feed to poultry, domestic animals, fish and others with higher nutritive value is an important way to absorb rural surplus labor power and increase the output value of agriculture. In accordance with the achievements of the application of the scientific breeding methods, generally speaking, 3 jin of feed grain produces 1 jin of pork; 2 jin of feed grain produces 1 jin of chicken; and 1 jin of feed grain produces 1 jin of fish. That is to say, on the basis of the output value of the feed grain put in, we can increase the output value manyfold. At present, 70 percent of the specialized households in the rural areas are engaged in the breeding industry. How to guarantee feed supply has become a big problem. If we find out all kinds of solutions to vigorously developing the feed industry, we can help give greater play to the role of the present limited feed grain. It is estimated that at present the grain used as feed in the rural areas throughout the nation in a year is about 100 billion jin and the dregs left over from the process of extracting oil from the various oil-bearing crops each year total about 17 billion jin. If the two are processed and mixed, through the feed industry, and again added with small amounts of such additives as industrially-made metheonine and lysine, this will enable the 100 billion jin of feed grain to play the role of 150 billion of grain. Using this additional feed in developing the breeding industry can increase the agricultural output value by more than 10 billion yuan. With the help of scientific research, we can also extract protein from many industrial and agricultural by-products and wild plants, open up more sources of various feed nutrients and create more conditions for the development of the breeding industry.

Developing the rough machining and finish machining of agricultural and sideline products can bring about a bigger increase in the output value of agriculture. The comprehensive utilization and processing of forest products can change defective materials into standard materials, remains of branches and wood scraps into high-quality plank materials, and obtain diverse organic chemical products and proceed to raise the value of forest products several or scores of times. Again for example, in the process of comprehensively utilizing cotton products, in addition to cotton to be used by the textile industry as raw material, cottonseeds can be compressed for oil, cottonseed cakes can be used as feed, cottonseed shells can be used as the nutrition base for the artificial cultivation of mushrooms, cotton stalks can be used for making paper and fiberboard, and so on. Recently, the Henan Provincial Academy of Agroscience cultivated a new nontoxic cotton variety whose fiber output and quality are no lower than those of the improved varieties which are now being popularized. Its nontoxic cottonseed contains more than 20 percent of protein, about 100 percent higher than the protein contained in paddy and wheat, and the various amino acids contained in its protein are relatively complete with rich content of lysine, and its nontoxic cottonseed is therefore a food of high nutritive value. Its cottonseed also contains 20 percent of oil, of which the composition of linoleic acid exceeds that of common edible oil and is thus an ideal edible oil. Its leaf contains 14 percent of protein and its seedling, tender branch and boll shell contain fairly rich protein each. Its left-overs from the process of thinning, pruning and beating can all be processed into fodder because they do not contain poison glands. In this way, 1 mu of cotton field can simultaneously play the role of cotton, grain and oil. Of course, the economic value of this nontoxic cotton should continue to be tested in practice. However, from this state of affairs we can see that there is still a vast potential for scientific research to explore for us more possibilities of production and raise the output value of agriculture.

The Whole Party and People Must Foster the Strategic Thinking of Depending on Science and Technology in Everything

In a short, in order to increase the gross value of industrial and agricultural production, we must, above all, devote a lot of energy and effort to developing the primary products which we directly gain from nature.

They are grain, cotton, oil and sugar, coal and petroleum and various metallic and nonmetallic ores. Otherwise, we will be unable to "feed" our people. However, it is far from sufficient to rely solely on these primary products. With the development of social division of labor and specialization, the improvement of labor productivity and commodity rate and the expansion and renewal of social needs, we must steadily increase the level of the comprehensive utilization of these primary products and that of the primary product processing. In the process of the primary products changing into the end products to be consumed, the more the processing links are and the farther they extend in depth, the higher the additional value of the products will be. In order to realize the objective of quadrupling output value put forth by the 12th Party Congress, we must depend on our progress in science and technology and continuously realize the reform and renovation of the industrial structure, the setup of production work, the organizational structure, the product mix and the technological makeup. Just as Comrade Zhao Ziyang pointed out: "If we do not rely on scientific and technical advance, there will be a danger that nothing will come of this objective. If we do rely on scientific and technical advance, there will be a certainty that this objective can be realized." Therefore, relying or not relying on scientific and technical advance is an important question which has a bearing on whether or not modernization will be carried out in real earnest and on whether or not the party's strategic objective can be realized.

Since the founding of the PRC, the CPC Central Committee has all along stressed that the important role of science and technology and of the scientific and technical personnel in socialist construction should be brought into play. However, owing to the influence of "leftist" thinking and the small producer mentality, erroneous ideas such as underestimation of the importance of science and technology and of scientific and technical personnel were rife in our party for a fairly long time. This prejudice seriously hindered the implementation of the party's correct policies, brought about many losses which should have never occurred to our construction work and wasted a lot of precious time. The 12th Party Congress summed up our experience in the past, raised the development of science and technology to the higher plane of strategy and accordingly put stress on it. The speech of Comrade Zhao Ziyang more incisively combined reliance on science and technology directly with realizing the party's strategic objective. With these speeches of a leading comrade of the party Central Committee as our guide and in light of the positive and negative experience of the various departments, localities and units in whether they attached importance to science and technology or underestimated the importance of science and technology, we must foster the strategic thinking of depending on science and technology in everything among the whole party and the whole people through this study of the 12th Party Congress documents. Particularly in this training of cadres in rotation, we must list the deepening of our understanding of science and technology as an important content of the training. Only when the understanding of the cadres is deepened and unified can these guidelines of the party become the conscious actions of the broad masses and can a great mass fervor for mastering science and technology truly take shape among the workers, peasants and intellectuals.

To bring the role of science and technology (including social sciences) into play, we must conscientiously find out satisfactory solutions to the question of depending on the scientific and technical personnel. At present, on the one hand, the scientific and technical personnel are fairly scarce and on the other hand, the phenomena in which a large number of scientific and technical personnel are left idle and wasted, and they are applying what they have never formally learned in school and doing work irrelevant to what they have formally learned in school seriously exist. We must exercise more effective control over the ranks of scientific and technical personnel, overcome selfish departmentalism and manage to transfer and use the talented people, as needed, in a centralized way as we did in the 1950-60's. Of the so-called implementation of the development plans for the next 20 years and that of the policy towards intellectuals, the most important thing to do at present is to implement the control and use of the ranks of scientific and technical personnel. We must boldly promote and assign important positions to the scientific and technical personnel who have been tested and proved by practice to be highly capable and considerably improve their living and working conditions. The argument alleging that only the workers and peasants who engage in manual labor create social material wealth is erroneous and harmful. Giving better treatment to the scientific and technical personnel in accordance with their actual contributions to the state is a measure which is completely in conformity with Marxist principles and with the interests of the party and the working class. We must do a good job in the propaganda and education work so that this correct policy can be smoothly carried out.

The reform of the administrative systems of the scientific research and the economy and the further objectivization of the systems of the assessment, awards and post title evaluation of the socientific and technical personnel and of the transfer of personnel will be more conducive to encouraging the scientific and technical personnel to make contributions to economic construction. It is only up to now that modern science and technology which has experienced more than 100 years of difficulties and complications in this land of China really has the conditions for integrating itself closely with the rejuvenation of the economy and the happiness of the people. All scientific and technical personnel must live up to the great expectations of party and the people and enthusiastically plunge themselves into the great cause of socialist modernization in accordance with their own respective conditions and professional characteristics.

Provided we really and effectively solve the question of depending on science and technology in ideology and understanding, in principles and policies and practical work of all kinds, we can surely create a new situation in our economic construction and the work of all kinds and we can certainly realize the objective of quadrupling the annual gross value of industrial and agricultural production by the end of this century.

CSO: 4007/71

CPC SECRETARIAT ON MODERNIZATION OF AGRICULTURE

OW101133 Beijing XINHUA in English 1109 GMT 10 Jan 83

[Text] Beijing, 10 Jan (XINHUA)--China should modernize and vigorously develop the beekeeping industry as part of the effort to increase state foreign exchange revenue and peasant income, said the science and technology group of the Research Center of the Secretariat of the Central Committee of the Communist Party of China.

Frontpaged in today's ECONOMIC DAILY [Jingji RIBAO], the proposal says that the number of colonies of bees increased from 500,000 to more than 3 million in the mid-1960's. Now with the new rural policy, the number of bee colonies has gone up to 6.33 million and annual output of honey is at 100,000 tons and of royal jelly about 300 tons. In recent years, China has been the world's largest exporter of honey, with around 60,000 tons or about one-third of the world's total honey exports.

The plentiful nectar sources in China are far from being fully utilized, the proposal says. Most of those along railway lines are used, but those along roads and in out-of-the-way mountainous areas remain to be exploited, especially the northern parts of the country.

Now China's bee colonies average less than one per square kilometer as against four to seven in some European countries, the proposal says.

Scientific research shows that bees' pollination services help boost farm production significantly, but beekeeping in China has not received enough attention as an important measure for increasing agricultural production, the proposal notes.

The proposal calls for bigger efforts to encourage beekeeping in all places that have nectar sources and work out a law on protection of apiaries.

The Ministry of Agriculture, Animal Husbandry and Fishery should establish honey and royal jelly production centers and bee breeding farms to raise fine races of bees. It also calls for good management of factories making beekeeping appliances.

The marketing of honey and honey products should be done well and prices fixed according to quality in order to give incentives to agricultural growth.

The Agriculture Research Institute under the Chinese Academy of Agricultural Sciences should be strengthened with respect to personnel, funds and equipment, the proposal continues. In addition, sub-research centers should be set up in agricultural colleges in (?some) major regions. It also suggests colleges offer beekeeping courses and help run technical schools or training classes.

The proposal also calls for the protection of Chinese linden in northeast China, wild [words indistinct] Chinese tallow trees and other nectariferous plants in south China.

CSO: 4020/37

ARTICLE DISCUSSES QUADRUPLING OF AGRICULTURAL OUTPUT

HK080322 Beijing CHINA DAILY in English 8 Jan 83 p 4

[Article by Zhon [as published] Dezhong published in Hongqi: "Must All Localities Quadruple Farm Value by 2000?"]

[Text] China is to quadruple the total output value of its industry and agriculture by the end of the century. Doesn't that mean that the total output value of agriculture must be quadrupled in all localities of the country?

The co-ordinated development of industry and agriculture does not mean that they should progress at the same speed. Since liberation, we had travelled along a tortuous road. For a time we unduly stressed heavy industry and allowed agriculture to fall behind.

In the past few years, readjustments were carried out. In 1981 agriculture occupied 30.9 percent, and industry 69.1 percent of the total output value. The proportions are gradually becoming more rational.

The growth rate of industry is usually higher than that of agriculture. From 1953 to 1981, the average annual growth rate of agriculture was 3.5 percent, that of industry 10.8 percent. The ratio between the two being roughly 1:3.

At present, China's countryside is undergoing a tremendous change. Government policies issued since the party's Third Plenary Session of the 11th Central Committee are well received. The various forms of the production responsibility system have stimulated higher outputs by the peasants.

From 1978 to 1981, agriculture grew at a rate of 5.6 percent a year. The rural economy is changing in two directions. One is from a self-sufficient or semi-self-sufficient economy toward large-scale commodity production, and the other from traditional farming to modern agriculture.

Agriculture includes crop-growing, forestry, animal husbandry, sideline occupations, fisheries and manufacture of farming products. Each of these has special features and develops differently.

For example, grain production increased 2.4 percent a year from 1953 to 1980. Total output in 1980 was 320 million tons. If the average annual growth rate beginning with 1981 were 2 percent for the first 10 years, and 2.1 percent for the subsequent decade, then total output in the year 2000 will be 480 million tons, an increase of 50 percent over a period of 20 years. This goal can be reached and efforts should be made to surpass it.

Estimates

According to preliminary estimates, vegetable oil, sugar, tea, fresh and dried fruits, meat, milk and aquatic products can more than quadruple by the year 2000. This is based on the current amount of cultivated land, which is only one-tenth of our total territory.

We must not limit ourselves to our present farmland, but make use of every inch of our soil. Besides growing crops, we must promote forestry, animal husbandry, sideline occupations and fisheries. We must make full use of our mountains and coastal areas.

Traditionally, the raw material produced in our villages have to be processed in towns far away. This not only results in waste, but also limits rural employment and the comprehensive utilization of farm products.

This situation must be changed gradually. Farming products must be processed on the spot or nearby; they must be utilized many times and their value increased. This will provide more jobs, increase living standards, and raise agricultural output value.

It is quite correct for the government not to require that agriculture quadruple its output value everywhere. Localities should set targets for themselves according to local conditions and economic development levels cannot be the same everywhere.

At present, there are more than 2,200 counties in China. A number of counties, especially those with middle or low incomes, can quadruple their agricultural output within 10 years, and double that by the end of the century. A number of other counties, for various reasons, will not be able to quadruple their output by 2000, but that is only natura.

In recent years there have been quite a number of areas which enjoy rapid growth. Compared with 1978, for instance, 43 counties in the northwest part of Shandong more than doubled their output in 1981. During the same period, Xinyang Prefecture in Henan Province saw a 63 percent increase and Nanhai County in Guangdong 127 percent.

Compared with 1975, Ganquan County in Shaanxi increased its output by 144.8 percent and Yongjia County in Zhejiang by 102 percent in 1980. These experiences deserve to be studied.

At present, to ensure that the goal of quadrupling our economy can be attained, each county should draw up its own farming development plan after making careful surveys of its natural resources. Measures to gain the maximum economic benefit should be put forward so that the masses can work hard to a good [words indistinct].

CSO: 4020/37

PEASANTS BUY MORE AGRICULTURAL MEANS

OW180115 Beijing XINHUA in English 1612 GMT 15 Dec 82

[Text] Beijing, 15 Dec (XINHUA)--China's peasants bought more than 20 billion yuan of chemical fertilizers, pesticides, medium and small farm implements and draft animals this year, more than seven percent above 1981, Li Deshen, director of the Ministry of Commerce's Bureau of Means of Agricultural Production said today.

He was addressing the closing session of a national meeting on the supply of farm implements and other means of agricultural production which opened on 6 December.

Li Deshen also said the bureau expects even greater sales in the coming year, as both confidence in government policy and peasant incomes grow. Some people are buying equipment and chemicals ahead of season.

The total sale of fertilizers this year is estimated to reach 65.3 million tons, an increase of 10.1 percent from 1981 and a 58.1 percent increase over 1978. The sale of insecticide sprayers and dusters is expected to reach 10 million pieces, up 48.4 percent from 1981, and 150 percent more than 1978.

Scientific farming and proper use of fertilizers and pesticides have been the focus of educational efforts by suppliers of means of agricultural production which have provided information services and distributed technical guides, charts and brochures in the past few years, Li Deshen said. More than five million copies of technical guides have been given away introducing commodities and application techniques.

Soil analysis and use of fertilizer on 837,000 hectares of land in Liaoning Province between 1979 and 1981 resulted in output increases of more than 20 percent.

Inquiry offices have been established at 14 district supply and marketing cooperatives in Wenling County, Zhejiang Province, and handled more than 6,000 questions in the first six months of 1982 alone, Li Deshen said. The offices have come to be known as "crop hospitals" and their members "crop doctors."

At the same time, he said, more than 128,000 workers at supply units of the bureau in various parts of the country received training last winter and spring.

Li Deshen urged all commercial departments to provide the peasants with more high-quality fertilizers, pesticides with low toxic residue, plastic sheets, small farm implements and draft cattle now in heavy demand.

CSO: 4020/37

PEASANTS GET PRIVATE TREE PLOTS ON HILLY LAND

OW310902 Beijing XINHUA in English 0715 GMT 31 Dec 82

[Text] Beijing, 31 Dec (XINHUA)--Twenty-five percent of Chinese peasant families, or 42 million, have been allotted an average of 0.2 hectares of hilly land for tree cultivation, according to a spokesman for the Ministry of Forestry.

Barren mountain slopes and other hilly places are not suitable for crop cultivation have been parcelled out either by county governments or people's communes to peasant families. A total of 8.4 million hectares had been allocated by the end of November, 1982, the spokesman said, and the handing out of plots is continuing.

Mountain forests and tree nurseries are not allocated to peasants, and still managed and owned by the state or by collective units, the spokesman said.

This policy of using such land to accelerate afforestation in China was outlined in a document concerning protection of forests and development of forestry issued by the Central Committee of the Chinese Communist Party and the State Council in 1981.

Certificates for keeping all income deriving from tree cultivation are issued to peasants but the slopes are still owned by the state or by rural collective units, the spokesman noted. Peasants can plant trees according to their own plan and their children have the right to inherit the slopes.

About three-fourths of China's 170 million peasant households live in mountainous or hilly regions, the spokesman said. The slopes allocated to the peasants will be between 27 and 33 million hectares when all families have increased their plots. It is possible that all these slopes will be tree-covered by the end of this century, he said.

The Tanghekou People's Commune in northern Beijing Municipality gave 11,000 peasants each 0.07 hectare plots for trees in 1980. They had planted apple, pear and chestnut trees and trees for firewood on the slopes by 1981.

Li Fuxing, a peasant in the Suban People's Commune in Fujian Province's western border region, has in the past two years spent 3,000 yuan on tree saplings, fertilizer and pesticide for about 18 hectares of mountain slopes including that which his family received as private plots and that which he took charge of for the commune. Survival rate of firs, oil tea and tung oil trees planted ran as high as 96 percent. This summer, Xiang Nan, first secretary of the Fujian Provincial Committee of the Chinese Communist Party, commended 56-year-old Li Fuxing and his family for their contributions to the greening of the country.

Peasants in Hebei Province have been given 280,000 hectares of mountain slopes and had planted trees on 8,300 hectares by this spring. Peasants in counties with large areas of barren mountains can have larger slopes near their homes. Some rich counties aid peasants with tree seeds, saplings and funds.

Peasants have formulated regulations on use of mountain slopes, the spokesman for the Ministry of Forestry said. Under the regulations, the slopes are to be used for tree planting only, not for crop cultivation and may not be transferred or leased to others. If a slope is not planted with trees in three to five years, the people's commune can take back the land and give it to others.

CSO: 4020/37

FRESH WATER AQUATIC ENTERPRISES REVIEWED

Beijing ZHONGGUO NONGMIN BAO in Chinese 26 Aug 82 p 1

[Commentary: "Fresh Water Fishery Has Developed, But It Still Must Develop Further"]

[Text] Since the Third Plenum, our nation's fresh water fisheries ended nearly 20 years of stagnation and increased output continuously for three years. In 1981, the yield of fish reached 1.37 million tons, an increase of 30 percent over 1978, and from January to June of this year, the output registered an increase of 7.1 percent over the same period last year.

Developing fresh water fishery serves importantly to improve the structure of agricultural production, protect the natural ecological balance, and develop the farm village economy on an overall basis. The responsible comrades of the Central Committee have placed a lot of emphasis on this and have issued many directives. Each locality is taking it an important task. During the first half of this year, 16 provinces, cities and autonomous prefectures held special meetings to study policy measures and solve actual problems. The area of local commercial fish bases built with the help of provincial investment has reached 190,000 mu. The area of cultivation of fish in netted cages has increased 90 percent over last year. More than 2 million households are engaged in family cultivation of fish. Farmers at all localities have increased their income by cultivating fish. For example, the fishery brigade of Hefu Commune in Wuxi, Jiangsu, last year realized a net income of 1.14 million yuan from fishery, and the distribution to each worker was 954 yuan. Some commune members of Heland County in Ningxiz last year cultivated fish and realized an income of 1,100 yuan.

Fresh water fishery has developed, but it still has to develop further. Only slightly over half of the current water surface that can be cultivated throughout the nation has been utilized. Hunan province where fish cultivation has developed more quickly in recent years still has about 1 million mu of water surface not yet utilized. The per mu yield of fresh water fish has already reached highs of 400, 500 and even 1,000 jin while low yields amount to only several dozen jin. The national average per mu yield is more than 100 jin. It can be seen that the potential for developing fresh water fishery is still great. The uneven development of fresh water fishery is related to the ideology of the leadership. At places where it is emphasized, "the leadership keeps fishery in mind, the masses have fish to eat on their plates." At places where there are no water surfaces, "fishery" as an element of agriculture, forestry, livestock production, sideline production and fishery cannot be included in the daily agenda. The ideology of the leadership must be changed from singular endeavors to diversification.

According to the experience of the localities, fresh water fishery must rely both on policy and on science. First, implementation of the right to use water surfaces must be grasped tightly. In zoning the right to use water surfaces, the principles of benefiting production, benefiting unity and taking both agriculture and fishery into consideration must be followed. Water surfaces within the jurisdiction of communes and brigades should be owned by the communes and brigades. Water surfaces spanning borders should be jointly managed after negotiation by concerned parties or by various types of joint ventures organized by higher authorities. Scattered water surfaces not convenient for collective management can be zoned for use by commune members. After determining the right to use water surfaces, the county government or governments above the county level should issue permits for use covering a long period without change and the rights should be legally protected. Second, we must establish and perfect the production responsibility system. The rest which has not established the responsibility system should quickly do so. The selection of a responsibility system can be made by suiting measures to local circumstances and there can be many varieties. We must pay attention to developing the function of people with special skills in cultivating fish to gradually form a group of specialized fish cultivating teams, specialized groups and specialized families and to develop towards specialization and socialization. Third, we must develop many forms of economic joint ventures. A unit does not always possess all of the elements of resources, labor, technology and funds. Joint ventures can mobilize the active factors of each side and stimulate the development of fresh water fishery. Fourth, we must concretely solve problems related to stock and feed, and popularize new techniques in cultivating fish.

We should encourage the utilization of scattered water surfaces and development of cultivating fish by the family. The number of farm families engaged in family cultivation of fish at the Dacheng Commune in Jiashan County in Anhui constitutes 80 percent of the total number of farm families. Each family cultivates about 3 fen of water surface to raise fish. Last year, the total catch of adult fish was 120,000 jin, averaging 80 jin per family. According to related estimates in Anhui, the whole province has 9,130,000 farm families. If each family cultivates an average of one fen of water surface, this would constitute only 4.8 percent of the total area of water surface of the entire province, but 150 million jin of fresh fish could be produced, surpassing the total output of fish of the whole province in 1980. It can thus be seen that family cultivation of fish has a bright future.

We should mobilize all active elements by policy and elevate the techniques of cultivating fish by science so that by the end of the 1980s our nation's fresh water fish production can reach 4 to 5 million tons. This is entirely possible.

9296
CSO: 4007/593

BRIEFS

ANIMAL HUSBANDRY COMPANY ESTABLISHED--Beijing, 29 Dec (XINHUA)--A company has been set up to help streamline operations of China's enterprises related to animal husbandry, the Ministry of Agriculture, Animal Husbandry and Fishery announced today. The China National Animal Husbandry-Industry-Commerce Corporation under the ministry is scheduled to go into operation 1 January. The firm will unify the administration of all animal husbandry-industry-commerce companies run by the ministry and local authorities and animal and poultry breeding farms and factories processing animal products. A state-owned enterprise responsible for its own profits and losses, the company will engage in business including production and sales of beef cattle and fodder grass seeds. [Text] [OW291832 Beijing XINHUA in English 1501 GMT 29 Dec 82]

CSO: 4020/37

COMMUNE HIRES TECHNICIANS WITH BETTER PAY

OW111218 Beijing XINHUA in English 1128 GMT 11 Jan 83

[Text] Beijing, 11 Jan (XINHUA)--More than 180 Beijing scientists and technicians have applied to work on the city's suburban evergreen people's commune in the wake of a commune decision to boost production and efficiency, commune officials said today. This commune is specialised in vegetable growing and has also quite a number of small-sized industries.

The decision, published on 22 December last year in the Beijing DAILY, is intended to overcome the shortage of specialized personnel following the establishment of the production responsibility system.

The commune will bring in agronomists, veterinarians and engineers to both train personnel and consult on agricultural production, animal husbandry, forestry and industrial problems.

This is one of the few communes in China that openly invite scientists and technicians to work for them.

Technicians will continue to enjoy material benefits of the state-owned establishments and enterprises from which they come, while receiving a higher wage to be paid by the commune, consulting fees, the welfare privileges of regular commune members and better housing conditions.

At the same time, the commune can dismiss those who are unqualified or do not work well. Any of those chosen can also leave for other jobs.

Contracts will be signed by both sides for the implementation of their respective duties.

Last year, the commune earned 100 million yuan, averaging 605 yuan per capita, the highest among all Beijing communes.

CSO: 4020/37

PROVINCIAL MARINE BREEDING PROGRESS SEEN

Fuzhou FUJIAN RIBAO in Chinese 17 Aug 82 p 1

[Article: "Output Increased, Varieties Increased, Commercial Commodities Increased, Our Province's Seawater Culture Has Developed Quickly and the Situation Is Good"]

[Text] Since the beginning of this year, the situation in our province's seawater culture has been very good. Total output has reached 1.31 dan, an increase of 23 percent over the same period last year [1981]. Greater increases in output were realized in such major cultured varieties as razor clam, oyster, kelp, laver. The development of the cultures of new varieties such as prawn, clam, mussel and scallop has also been fast. The amount of cultured marine products supplied to the city and village markets has increased.

Since last year, the party and administrative agencies at each level along the coast have conscientiously implemented the major decision by the provincial committee to study the "mountains and seas well", to carry out capital construction of fishery well and to grasp the development of marine culture as the key in the capital construction of fishery, strengthened leadership, implemented the production responsibility system, provided commune members with private land on beaches, strengthened scientific and technical work, and forcefully promoted the development of marine culture and production. Huian County grasped the implementation of policy and expanded the area for cultivating razor clams in the first half of the year to more than 4,600 mu, an increase of onefold over last year. The area can produce 90,000 dan of fresh razor clams. The output is over two times that of 1981. The area for marine culture during the first half of the year in Zhangpu County was larger than that of the same period of 1980 by more than 1,100 mu. Tongan County is the major oyster producing region in our nation. This year, cultivation of oyster realized new progress. It has already produced nearly 90,000 dan of oyster meat.

In the cultivation of kelp, the past method of guaranteed procurement and guaranteed sales by the state was changed. After implementing the policy combining state procurement and allowing commune brigades and commune members to sell kelp on their own, marketing channels were widely opened up and production developed rapidly. This year, the region has already harvested about 700,000 dan, an increase of 34 percent over 1981. The cultivation of laver now surpasses 40,000 mu and the output has reached 120,000 dan, constituting about 80 percent of the total output of laver throughout the nation.

The cultivation of new varieties has also developed rather quickly. The growth of prawns artificially cultivated throughout the province is good. The cultivation of clams by the Xiaowo Commune in Lianjiang has realized good results. The Daowo Brigade alone could harvest nearly 10,000 dan this year and it has already exported more than 3,600 dan. The cultivation of mussels and kelp has also realized new development. The harvest in the two counties of Fuding and Lianjiang alone is nearly 50,000 dan, an increase of more than 20,000 dan over last year. Besides selling domestically, they are also processed and canned for export.

9296
CSO: 4007/604

PROVINCIAL-LEVEL PEASANT INCOME REPORTED UP FOR THIRD YEAR

Guangzhou NANFANG RIBAO in Chinese 14 Aug 82 p 1

[Article: "According to a Sampling of More Than 700 Families in 24 Counties, Income of Our Province's Farmers Has Increased By a Large Scale for Three Consecutive Years; Last Year, Net Income From Family Sidelines Ranked First in the Nation"]

[Text] This reporter learned from the Guangdong Provincial Bureau of Statistics: According to last year's sample survey of 760 farm families in 24 counties throughout the province, the average per capita net income from production was 290 yuan. With the addition of other non-loan type income, the total annual income reached 325.4 yuan, an increase of 132.1 yuan over that in 1978 before the Third Plenum, an increase of 68.4 percent. The net income from family sidelines averaged 150.9 yuan per capita, an increase of 96.4 percent over 1978. According to information provided by the meeting of the National Bureau of Statistics, the net income from farm family sidelines in our province ranked first among all provinces, cities and autonomous regions throughout the nation.

For three years, the income of each farmer averaged an annual increase of 44 yuan. During the 20-year period from 1956 to 1976, the total increase was 45.6 yuan. Now, the increase in one year approaches the total increase over the past 20 years. Such a large scale increase is rarely seen in the history of our province.

The large scale increase in farmer's income in our province is due to the implementation of the various principles and policies since the Third Plenum. First, each locality established and perfected the various types of production responsibility systems and mobilized the productive enthusiasm of the broad number of farmers. Last year, the number of production brigades establishing the responsibility system constituted 90 percent of the total number of production brigades throughout the province. Those implemetning the "double contract" responsibility system constituted 80 percent.

The localities in our province paid attention to adjusting the internal structure of agriculture, developed diversification on the basis of guaranteeing food grains production, opened up ways to become rich, and changed the past situation when a drop in output of food grains meant a drop in the income of farmers. Last year, although our province's food grains dropped in output, the income distributed to the farmers by the basic accounting units (including income for surplus output) still averaged an increase of 7.6 yuan per person.

Each locality appropriately expanded the area of private plots and land for reclamation managed by commune members themselves, encouraged commune members to develop family sidelines, and these efforts have served greatly to increase the income of farmers. Last year, the income from sidelines of farm families as a percentage of total income showed an increase from 39.8 percent in 1978 to 46.4 percent.

The state raised the procurement prices for agricultural sideline products, increased negotiated prices and markup for surplus procurement. This enabled the individual farmer to receive a benefit of 72 yuan over the past three years and this is also an important reason for the increase in the income of farmers.

9296
CSO: 4007/604

GUANGDONG SUMMER GRAIN PROCUREMENT REPORTED ALMOST COMPLETED

Guangzhou NANFANG RIBAO in Chinese 14 Aug 82 p 1

[Article: "Progress Is Fast and Quality Is Good In Summer Grains Procurement; Up to August 10, the Whole Province's Summer Grain Procurement Task Has Been Completed 79 Percent, 1.2 Billion Jin More Was Warehoused Than in the Same Period Last Year"]

[Text] A reporter and a correspondent of this paper have learned from the provincial food grains department: At present, our province's procurement of summer grains has entered a high tide. Progress in submission of summer food grains for sale is fast, the quantity is plentiful, the quality is good and it has been rarely seen in recent years. Up to August 10, the whole province has warehoused 4.2 billion jin of rice, constituting 79 percent of the summer food grains procurement task and registering 1.2 billion jin more than that warehoused during the same period last year [1981]. Foshan, Zhaoqing, Meixian, Hainan prefectures have already completed over 90 percent of the task. The Hainan Autonomous Prefecture and 26 counties and cities have already completed the task.

Most of the regions in our province realized a larger scale increase in output during this year's early crop, fully showing the great power of the principles and policies in use since the Third Plenum. The bumper harvests of the early crop have stimulated the patriotism of the broad masses of farmers. They actively completed the state's task and contributed more to the buildup of the four modernizations. It has already become the self-conscious activity of the broad masses of farmers. A moving scene of "pulling carts and shouldering containers of food grains busily" has emerged everywhere. After summer food grain procurement began in Kaiping County, the broad number of farmers actively submitted food grains. By July 28, the whole county completed its task within a period of only a dozen or so days. Hua County, which used to fill its warehouses more slowly in past years, completed the task on August 8 this year, 29 days ahead of schedule. At the same time, large numbers of farm families submitting 10,000 jin of food grains and completing the annual quota of food grains for submission and sale with one crop appeared everywhere. According to incomplete statistics, there were 300,000 farm families throughout the province completing the whole year's quota for food grains procurement in one crop, and there were 315 families that submitted over 10,000 jin of food grains to the state.

During these days of the high tide of procurement of summer food grains, the food grains department of each locality is implementing various measures, establishing additional procurement stations, simplifying procurement procedures, thinking of many ways to make it easy for the masses to submit food grains for sale. The broad number of workers of the food grains departments worked under extreme heat and high temperatures, did not care about hardship, received incoming food grains as soon as they were delivered, and some even worked throughout the night. Many food grains stations also set up tents and provided cool tea and water and prepared meals to enthusiastically welcome farmers delivering food grains.

9296
CSO: 4007/604

FOSHAN PREFECTURE SETS UP HYBRID RICE STOCK SEED BASES

Guangzhou NANFANG RIBAO in Chinese 16 Aug 82 p 1

[Article: "Foshan Prefecture Establishes Hybrid Paddy Rice Stock Base"]

[Text] To do the work of purifying hybrid paddy rice parents well, this year, the Foshan Prefecture established a hybrid paddy rice "three lines" stock base in the suburb of Foshan City.

In recent years, progress in Foshan Prefecture's efforts to popularize hybrid paddy rice has been fast. This year, the planting area in the entire prefecture can reach over 2 million mu, constituting 48 percent of the area planted in paddy rice for the entire year. The propagation and utilization of the "three lines" (sterile line, sterile-free line, restorer line) over many generations have caused the mixing and degeneration of the seeds to become more serious. After completing the hybrid paddy rice stock base this year, sufficient primary stock seeds and stock seeds and first generation stock seeds can be produced each year starting from next year for use as stock seeds in propagation fields and in fields for the propagation of the "three lines" of hybrid paddy rice throughout the prefecture to replace the current seeds of the "three lines", improve the purity of seeds, and retain the superiority of hybrid paddy rice.

9296
CSO: 4007/604

PROVINCIAL SUGARCANE PRODUCTION HITS NEW LEVELS

Guangzhou NANFANG RIBAO in Chinese 16 Aug 82 p 1

[Article: "Under the Guidance of the Principle of the Party Line Since the Third Plenum, Our Province's Cane Sugar Production Has Developed Prosperously, 630,000 Tons of Sugar Have Been Submitted to the State By This Pressing Season, Several Major Economic Indicators Created the Highest Historical Levels"]

[Text] Our province's cane sugar production has developed prosperously. In the 1981-1982 pressing season that has just ended, the five major economic indicators, the total amount of sugarcane pressed throughout the province, the total output of sugar, the total amount of sugar submitted to the state, and total production value of the sugar refining industry and the amount of taxes submitted to the state all reached and created the highest levels of the past. Among them, the total output of sugar reached more than 1.278 million tons, an increase of 26 percent over the previous pressing season with the best historical level. The total amount of sugar submitted to the state as of the first ten days of August this year has already reached 630,000 tons, surpassing that of the 1978-1979 pressing season which was the highest in the past by more than 110,000 tons. Even though industrial profits during this pressing season dropped from previous years, but because of the increase in taxes, the amount of taxes submitted to the state increased over past years, reaching more than 437 million yuan.

Since the Party's Third Plenum, our province has readjusted the distribution of food grains and sugarcane throughout the province aimed at correcting the destruction of agricultural production by Lin Biao and the "gang of four", implemented a series of procurement policies for sugarcane production including "the establishment of fixed basic quotas, linking food grains and sugar, complete awards and complete penalties for each ton of sugar and each ton of food grains surpassing the basic quotas, and not changing the policy for five consecutive years". This mobilized the enthusiasm of the broad number of farmers to plant sugarcane and enabled our province's area of sugarcane plantations to develop from the original more than 2,700,000 mu to over 3,200,000 mu. And with the implementation of the production responsibility system of "linking production to the laborer", the output of sugarcane and the economic income of commune members were directly linked. This stimulated the improvement of the level of field management of sugarcane fields, enabled the unit yield of sugarcane to increase from the highest historical level of 3.65 tons to 3.72 tons during this pressing season. This solved the problem of our province's sugar refining industry which did not have sufficient work for many years. According to statistics compiled by concerned departments, now, the daily sugarcane pressing capability of our province's mechanized sugar refineries has increased from 81,500 tons before the Third Plenum to 95,250 tons.

9296
CSO: 4007/604

LATE RICE PLANTING COMPLETED IN GUANGDONG

Guangzhou NANFANG RIBAO in Chinese 16 Aug 82 p 1

[Article: "Our Province's Late Crop Transplanting Task Has Been Basically Completed, Progress Was Faster Than That During the Same Period Last Year By More than 5 Million Mu; Each Locality Has Turned to Field Management"]

[Text] Other than for a portion of the fields which have suffered from drought and land for remnant crops, the task of transplanting our province's late rice has basically been completed. According to statistics compiled as of August 11, the whole province has transplanted 30,150,000 mu of late rice, constituting about 95 percent of the area planned by each locality. The progress has been faster than that of the same period last year [1981] by 5.28 million mu. Among them, transplanting of seeds of the early crop planted in autumn and transplanting of hybrid paddy rice have been basically completed by August 3. At present, the broad masses of cadres are exerting further efforts to manage the fields well. They are determined to create new achievements in production to welcome the victorious opening of the 12th Party Congress.

This year, the harvesting time of early rice in our province was delayed, and transplanting of the late crop generally began 3 to 5 days later. But because each locality established and perfected the various production responsibility systems for summer harvesting and summer planting, mobilized the enthusiasm of the masses, therefore progress in transplanting was still relatively quick. During the major period of transplanting throughout the province, the daily progress of transplanting reached about 3 million mu, creating the highest historical level. During the "double summer farm work" period, many responsible party and administrative comrades of the counties and communes led working groups into the villages to help communes and brigades transplant seedlings well. At the same time, all professions were mobilized to greatly support the effort to seize transplanting and special emphasis was placed on organizing labor to help backward brigades and veteran dependents and difficult families having few laborers to transplant late rice.

Many localities continued to carry out field management without rest after basically completing the task of transplanting. At present, throughout the province, nearly 10 million mu of rice fields have been fertilized once by intertilling.

9296
CSO: 4007/604

GUIZHOU

PEASANTS PURCHASE MORE FARM SUPPLIES

OW221135 Beijing XINHUA in English 0712 GMT 22 Dec 82

[Text] Guiyang, 22 Dec (XINHUA)--Guizhou Province, traditionally known as one of the poorest areas of China, now has a growing market for farm tools and machines, fertilizer and insecticide, according to the Provincial Agricultural Marketing and Supply Corporation.

Meng Xiantong, manager of the corporation, said that peasants in the province brought 950,000 tons of chemical fertilizer in the 1982 January-October period, 4.9 percent more than last year's like period. And they would have purchased more had it been available. Peasants are also using fertilizers more rationally, he said.

Officials in Hechuan County, Sichuan Province, said the peasants from Guizhou's Zunyi County alone had brought 650 trucks from a motor vehicle plant in Hechuan. For this reason, the Hechuan Motor Vehicle Plant has set up a service center in Zunyi County.

Small tractors, which are becoming increasingly popular in the province, serve peasants in various ways. Peasants use them for ploughing and transportation as well as to generate power and drive threshing, irrigation and grain milling machines.

Provincial statistics showed that farm machinery had an aggregate horsepower of 1.84 million in 1982, while in 1978 the figure was 21.6 percent less.

Sales of plastic sheets for covering seed beds of tobacco, rice and other seedlings went up to 1,417 tons, 22.9 percent higher than the 1981 period.

Guizhou Province, in a remote and mountainous area, has a population of around 28 million. Ten minority nationalities, as well as the majority [word indistinct], inhabit the province.

In 1978, per capita income in the rural areas of Guizhou was only 46.4 yuan, among the lowest in the country. Last year it reached 190 yuan, close to the national average. The province's 1982 grain harvest of 6.65 million tons, represented a 17 percent increase over 1981. The growth was attributed to the adoption of the responsibility system in agricultural production which raised the peasants' initiative, the diversification of the rural economy, and the reduction and remission of tax and grain selling quotas for poor areas.

CSO: 4020/37

EXPERIMENTAL FIELDS EXPECT BUMPER HARVEST

Beijing GUANGMING RIBAO in Chinese 29 Aug 82 p 1

[Article: "Exploring New Ways to Unify Agricultural Scientific Research in Agriculture and Agricultural Production, Bumper Harvests Are Expected From More Than 800,000 Mu of Comprehensive Scientific Experimental Fields in Heilongjiang"]

[Text] According to incomplete statistics of six prefectures in Heilongjiang province, there are already more than 70 bumper harvest and comprehensive scientific experimental fields of 10,000 mu each, totaling more than 800,000 mu. At present, the growth of the crops in the experimental fields is generally better than that in ordinary farmland and bumper harvests are expected.

The 10,000-mu bumper harvest and comprehensive scientific experimental fields have been planted to comprehensively utilize the achievements of agricultural science and technology and new production techniques to realize large area high yields, superior quality and low cost production on 10,000 mu of land. Last year, Heilongjiang province used the method of unifying scientific research and production in more than 11,000 mu of soybean fields. The average per mu yield reached 330 jin, over 20 percent more than the unit yield of ordinary soybean fields. Each mu produced a net gain of 21 yuan in income, and the quality of the soybeans improved. Experiments in the 10,040 mu of beets produced an average per mu yield reaching over 4,000 jin, 30 percent higher than the unit yield of ordinary fields, and the net income increased by over 50 yuan. The sugar content of the beets also increased about two degrees. This experiment became popular and this year it has been propagated to all localities in the province and it has been welcomed by the broad number of farmers.

Practice over the past year has proven that this scientific production method has many advantages. First, it benefits the realization of scientific production and the unification of scientific research and production. The 10,000 mu scientific production method combines traditional experience with modern science and technology, sciences involved in the entire course of agricultural production and all related achievements and techniques into one. It has combined production and scientific research tightly and it has avoided blindness.

Second, a better organizational form for science to guide agricultural production has been found. In the experiment, all technical problems were referred to related agricultural science and technology personnel and technical groups organized by farmer technicians, thus changing the method of relying only on commands promulgated by administrative departments to guide agricultural production, and the unification of production and scientific research has been guaranteed in form.

Third, this scientific production method is advantageous to promoting the links between the various fields of scientific research in agriculture and urging scientific research in agriculture to develop towards comprehensiveness, and it can also improve the level of scientific planting by each commune and brigade. According to estimates by concerned departments, if this method is popularized throughout the province of Heilongjiang, each year, it can increase the output of food grains by several billion jin.

9296
CSO: 4007/593

BRIEFS

WHEAT STRIPE RUST--The Hubei provincial crop disease forecast station recently issued a circular to all places stating that the wheat stripe rust has broken out in Yunyang, Xiangyang and Jingzhou prefectures. This is a year when wheat stripe rust in the province has broken out earliest. According to the survey in various places, the incidence of the wheat stripe rust is generally 1 to 5 percent and reaches some 10 percent in serious cases. The station has suggested that all places promptly take measures to prevent and control it. [Wuhan Hubei Provincial Service in Mandarin 1100 GMT 31 Dec 82]

CSO: 5400/4117

HUNAN

BRIEFS

PIG DISEASE PREVENTION--Chenzhou Prefectural CPC Committee and administrative commissioner's office recently held a telephone meeting on strengthening the work of preventing and treating pig diseases. In the preceding period, pig diseases spread widely in the Chengzhou area and caused many deaths of pigs. This problem has drawn attention from the prefectural authorities. Some prefectural leaders personally went to make investigations in the countryside and worked out some measures for coping with this problem. They required that the leadership over the work of preventing and treating pig diseases be immediately strengthened and veterinary stations be at once restored. The responsibility system in prevention and treatment should be established and perfected. Quarantine work on markets should be intensified and the selling of pork from pigs who died from disease must be strictly forbidden. Many counties of this prefecture have now gone into action. [Changsha Hunan Provincial Service in Mandarin 1100 GMT 14 Dec 82]

CSO: 5400/4117

JIANGDU PUMPING STATION'S CAPABILITIES OUTLINED

Beijing RENMIN RIBAO in Chinese 26 Sep 82 p 2

/Article: "Jiangdu Pumping Station Has Been Awarded the National Superior Quality Project; Concerned Departments Cooperated in Building the Project, the Completion of the Pumping Station Has Improved the Conditions for Production in 25 Counties and Cities in Northern Jiangsu"/

/Text/ Our nation's largest electric power, drainage and irrigation project at present--the Jiangdu Pumping Station in Jiangsu Province, recently was evaluated by the National Quality Evaluation Committee as a superior quality project of the nation. Since completion of this station and since production began, it has already pumped and diverted by gravity 77.99 billion cubic meters of water from the Chang Jiang, more than 50 percent of the annual runoff of the Yellow River. Its completion has changed the conditions for production in 25 counties and cities in the region, and it has changed the situation in northern Jiangsu which has been historically a victim of many disasters and a poor region into an important commercial food grain base in Jiangsu province. For 19 years, this region has produced a total of 50 billion jin of food grains, averaging an annual increase of 6 percent.

The Jiangdu Pumping Station is located south of Jiangdu County in Jiangsu province at the confluence of the Chang Jiang, the water channel of Huai River that enters the Chang Jiang, the Beijing-Hangzhou Canal and the Xintongyang Canal. Historically, because the Yellow River overwhelmed the Huai River and brought a lot of mud and sand which silted and plugged the outlet of the Huai River, the Huai River system was seriously damaged. The broad area at the lower reaches of the Huai River, the Qi River, the Shu River and the Si Shui became a severe disaster area where "great disasters occur when rain is heavy, small disasters occur when rain is light, drought occurs when there is no rain, there are no harvests 9 out of 10 years". The Jiangdu Pumping Station is an important part of the project by the people of northern Jiangsu under the leadership of the party to dredge the Huai River. It includes four large electric power and drainage and irrigation stations with a designed pumping capacity of 400 cubic meters per second. Auxiliary projects include 12 control floodgates, 5 boat locks, and two trunk water conduits. It is a large water conservancy and comprehensive utilization project that regulates water across river valleys, sends water over long distances, irrigates, drains waterlogging and flood waters, modulates phases, generates electricity, regulates the water level for navigation, and provides water for industry and agriculture in the towns and villages. According to the requirement for unified planning and construction in phases, work began in 1961. By 1979, all projects, including the main project and all auxiliary projects were completed. During the course of construction, the departments of machinery, electric power, civil engineering and construction and water conservancy cooperated with each other, overcame difficulties, and realized one victory after another. The water pump of 3.1 meters in diameter with a pumping capacity of 210 cubic meters per second was developed by the manufacturing departments after many improvements. The siphoning waterflow outlet used for the first time in the nation and the vacuum filling valve designed and installed have provided a reliable guarantee for safe operation.

In years of drought, the Jiangdu Pumping Station pumps water from the Chang Jiang and sends the water into the Jing-Hang Canal, the main irrigation canal in northern Jiangsu, to irrigate more than 3 million mu of farmland. Through the auxiliary projects, the water of the Chang Jiang is diverted into the Xintongyang Canal and sent to the heartland of the Lixia River to irrigate over 7 million mu of farmland. It can also pump the water of the Chang Jiang to supplement the Hungze Lake and send water to Xuzhou and Lianyungang Cities. During the rainy and waterlogging seasons, Jiangdu Pumping Station can promptly drain the water from the waterlogged 4,000 square kilometers in the Lixia River area in northern Jiangsu into the Chang Jiang. Each day, it can reduce the level of waterlogging by 7 centimeters. This July, torrential rains continued to fall in northern Jiangsu. All 33 generators of the pumping station operated to drain waterlogging, and they discharged an average of 40 million cubic meters of water a day. The auxiliary projects drained 500 million cubic meters of flood water a day, enabling this region's autumn crops to avoid disaster.

For 19 years, the Jiangdu Pumping Station has pumped and diverted a total of 31.4 billion cubic meters of the Chang Jiang's water and pumped and drained 8.25 billion cubic meters of waterlogging. The auxiliary projects diverted 46.59 billion cubic meters of water from the Chang Jiang by gravity, and drained 349.28 billion cubic meters of flood water. On the average, they diverted 4.1 billion cubic meters of the Chang Jiang's water by pumping and by gravity diversion, equivalent to half of the amount of water stored in Hongze Lake. According to statistics, income from increased agricultural production in this region alone has surpassed the total investment in the project by several times. The completion of the Jiangdu Pumping Station has also improved the condition for navigation in the Jing-Hang Canal and has provided large amounts of water for production and living by 10 million people.

9296
CSO: 4013/9

JIANGSU

SUZHOU PREFECTURE CULTIVATABLE AREA DECREASE REPORTED

Beijing ZHONGGUO NONGMIN BAO in Chinese 26 Aug 82 p 2

[Article: "Strengthen Management, Turn the Declining Trend of Cultivated Land Around--Suzhou Prefecture and Wujin County Land Management Survey"]

[Text] According to statistics of the past 30 years after liberation of Jiangsu province, the area of cultivated land throughout the province in 1980 was 13,230,300 mu less than that in 1949, an average annual drop of 441,000 mu of cultivated land (including the loss made up by encircling parts of lakes and ocean areas to create farmland, newly added areas after leveling land), and equivalent to an annual decrease of cultivated land about half a county in area. This is a shocking figure. To understand the situation, the provincial department of agriculture surveyed the centers of dense population, Suzhou Prefecture, Suzhou City, Taichang County, Changzhou City and Wujin County.

Suzhou Prefecture now has about 7.2 million mu of cultivated land, less than that in 1950 by nearly 800,000 mu, equivalent to the area of cultivated agricultural land in Jiangying County. Especially during the past three years, the declining trend in cultivated land has become more obvious. According to a survey conducted by the Suzhou Planning Committee from 1978 to 1980, the whole prefecture's area of cultivated land dropped by about 210,300 mu. Of this, capital construction above the county level took over 15,678.8 mu and leased 2,524 mu. Commune operated enterprises occupied 34,359 mu, brick and tile kilns occupied 8,236 mu, water conservancy used up 43,166 mu, commune and brigade highways occupied 20,313 mu, middle and elementary schools used up 2,155 mu, warehouses of brigades and teams occupied 30,412 mu, commune members used up 53,034 mu for housing, and other projects used up 8,687 mu.

The situation reflected by the above survey showed:

I. There is a lack of unified control of land. Capital consturction projects directly under state control used only 19,700 mu. Over 90 percent of the area of land lost were not under unified state control.

II. Leasing of land has not followed procedures. The suburbs did not follow capital construction procedures in the past. The remaining question concerning the leasing of land has not been solved and a new situation in leasing land is emerging. In Wujin County, 105 enterprises including light industry, sanitation, water conservancy, farm machinery leased a total of 446 mu but as of now they have not completed the procedures for the procurement of such land.

III. Farm villages occupy cultivated land at will. Statistics of the recent three years in Suzhou Prefecture show that the farm village project that occupies the most percentage of land is capital construction of housing for commune members, followed by water conservancy, commune and brigade enterprises, and commune and brigade roads. These four projects have occupied a total of 181,200 mu of land, constituting 93 percent of the land occupied by the farm villages in the prefecture.

In view of the present situation, the trend of future development in general is "four declines and one increase": After readjustment of the state's investment in capital construction, the area of land for urban and suburban capital construction will gradually decline year by year. Because large water conservancy backbone projects in our province have already been basically completed, and with the implementation of the production responsibility system in the farm villages, the use of land for water conservancy projects will visibly drop. The land occupied by commune and brigade enterprises will gradually decline year by year. The land allocated for building roads in the next several years will also decline. Conversely, the area of land allocated for building farm houses has expanded during recent years. As the farm village economy prospers, construction of farm houses will possible increase.

According to the above survey, we believe that in future land management work, the main target is the farm village. But at present, the farm villages lack such management agencies and managerial personnel, there are no rules to follow and no laws to abide by. This is an outstanding conflict in our province's land management at present.

Wujin, Taichang and such counties have realized better achievements in land management. The Taichang County Government established "several concrete regulations concerning the construction of farm houses in Taichang County." The Wujin County Government promulgated "temporary regulations for the control of construction of towns and farm houses in Wujin County." These clearly stipulated regulations have served visibly in preventing the decline of cultivated land. The Wujin County commission for inspecting discipline cooperated with the county committee to wage a ceaseless struggle against activities of cadres violating land control. They severely handled the case of the deputy secretary of the party committee of Huangli Commune, Song Fada [1345 3127 1129], who violated the laws. This case has greatly affected the broad masses of cadres.

These counties also paid attention to the establishment of management agencies and personnel, emphasized zoning for farm houses and establishing test points.

To protect cultivated land and benefit future generations, we suggest the following: 1. The state must rapidly promulgate land control regulations, the governments at each level must establish concrete methods and measures of management and power agencies in charge of unified control of land at each level. 2. We should organize and train special personnel, establish general agricultural development plans above the brigade level for mountains, bodies of water, gardens, forests, roads, canals, and houses. 3. We must reemphasize that all land belongs to the state. No user unit has the right to lease, purchase, sell, exchange land. Cadres must strictly obey the state's land control laws. Activities in violation of the law should be punished by law.

9296
CSO: 4007/593

SHENYANG OUTSKIRTS' HOUSEHOLDS BREED LIVESTOCK

OW211441 Beijing XINHUA in English 0827 GMT 21 Dec 82

[Text] Shenyang, 21 Dec (XINHUA)--One out of four peasant families on the outskirts of northeast China city of Shenyang has taken up household animal breeding, according to local authorities.

These specialized individual households are now supplying about 50 percent of the total pork and eggs purchased by the state in the area.

The household animal breeding began in 1979 when specialized household production was encouraged. Of the two million people on the city outskirts, more than 120,000 households have begun raising pigs, poultry and dairy cattle. Some specialize in the production of sheep, rabbits, fish, bees and martens.

At the outset, authorities said, families operated on a household basis but recently some have begun to join together voluntarily to expand production. This could increase productivity and turn out more commodities for the society, the local authorities said.

In order to encourage this more of production, the city has increased the plots of land for private use and provided households with bank loans. Commercial departments then undertake to supply them with fodder and necessary facilities in exchange for their products. Technical services and supply and marketing organizations have also been established to serve their needs.

This policy has encouraged the initiative of those peasants with special skills, the authorities said.

For example, one commune member, Su Yulan, is an expert in livestock and poultry raising. In 1979, she raised 50 pigs and sold the state 23 and in each of the following two years she raised over a hundred pigs. This year, she and her two daughters raised 140 pigs, five milk cows and 900 chickens. She said that she could sell to the state 70 pigs, 5,000 kilograms of milk and 600 kilograms of eggs by the end of this year.

Cow breeder Lin Zhiyuan and his sister pooled their funds to run a livestock farm to raise dairy cattle and gold fish. Over the past three years, they provided the city with 800,000 kilograms of milk, with a net income of 28,500 yuan.

The local authorities said families like these were fast increasing and the average standards of living for the peasants on the city's outskirts had much improved as a result.

Now the household specialized production is spreading rapidly to other parts of Liaoning Province. It is estimated that the province has a total of 270,000 households engaging in animal breeding.

CSO: 4020/37

NINGXIA STATE FARMS REPORT INCREASED SUMMER GRAIN OUTPUT

Yinchuan NINGXIA RIBAO in Chinese 9 Aug 82 p 1

[Article: "Output of Summer Food Grains of State Farms of the Autonomous Region Increased 14 Percent Over Last Year"]

[Text] As of July 31, the state farms belonging to the autonomous region's agricultural reclamation system have basically completed storing summer food grains. This year's total output of 140,000 mu of summer food grains reached 70 million jin, an increase of 14 percent over last year [1981]. Every one of the 14 farms produced an increase of summer food grains over last year. The state farms of the agricultural reclamation system have continued to produce an increased output of summer food grains for six consecutive years since 1977.

There were many reasons for the increased output of summer food grains year after year by the state farms. A summary of the work shows there were three basic experiences: The first was that the leadership at each level placed the main effort on grasping agricultural production. Responsible comrades of the Agricultural Reclamation Bureau of the Autonomous Region spent about two thirds out of every year going to the state farms to survey, study and help solve problems. The cadres of the state farms also went deeply into the basic levels to carry out face-to-face leadership. Problems that occurred in production could be solved in a timely manner. The business principles, planting plans, business management, production measures are now all in closer alignment with the actual situation. The second was that a general emphasis had been placed on elevating the level of scientific planting and the popularization of advanced techniques. The third was that an ideology of resisting disasters and seizing bumper harvests has been established.

9296
CSO: 4007/604

PROVINCE COMPLETES AUTUMN CROP PLANTING

Jinan DAZHONG RIBAO in Chinese 29 Oct 82 p 1

[Article: "Quota of Autumn Crop Planting Has Been Overfulfilled in Rural Areas of This Province--Area Planted Totals 55.62 Million Mu; Seedlings Emerged in Most Wheat Fields; and Field Work Management Has Been Closely Monitored in Various Localities"]

[Text] Encouraged by the Spirit of the 12th National People's Congress of the CPC, the broad rural cadres and masses of the province arduously struggled for more than a month and, highly charged with working enthusiasm, overfulfilled the autumn planting quota of 55 million mu by 620,000 mu.

After the provincial government's "Notice on Doing Well in 1982's Autumn Planting Work" was transmitted to subordinate organizations, the various localities began to consciously summarize past wheat production experiences, educate the cadres and broad masses to correctly handle the relationship between grain production and diversified economy, to clearly understand the significance of wheat output in grain production and to raise the level of awareness in carrying out the state plan so that every level of production could thoroughly carry out the autumn planting plan and ensure timely, sufficiently and well planted wheat. In Linyi Prefecture, careful planting of the autumn crop and development of agricultural production are considered as major events in concretely executing the spirit of the 12th National People's Congress. In conscientiously carrying out the policy on planting area and increasing production, the entire prefecture, besides completing the 6.55 million mu distributed by the province's autumn planting plan, planted an additional 1.2 million mu of wheat. In Heze Prefecture, because grain production and cash crop production were optimally arranged, the prefecture has overfulfilled the autumn planting quota of 6.5 million mu by 500,000 mu. Even in the seriously drought-ridden Yantai Prefecture, the entire population of the area was mobilized to plant crops by using all possible drought-resisting measures. Thus, 7.13 million mu of wheat was planted on schedule with an overfulfillment of 530,000 mu.

Out of 410,000 basic accounting units in the province for autumn planting, 94.2 percent carried out the contractual responsibility system of linking remuneration to output and more than 70 percent exercised "double contract," a 20 percent increase over last year. Among the units that carried out the "double contract" system, it is relatively commonplace to also carry out centralized planning, unified specifications on quality and quantity, centralized irrigation to add moisture to the soil, and unified mechanized plowing and planting, thus exploiting fully commune members' enthusiasm and the superiority of the collective economy with a higher standard of planting quality. The sown areas of early and intermediate wheat crops before the "Cold Dew" throughout the province reached more than 47 million mu, an increase of more than 11 million mu over last year. According to the soil fertility conditions, the various localities have reapplied widely base fertilizers and increased application of phosphate fertilizers. Total areas and volumes of base fertilizers applied were more than last year's. Areas with better soil moisture conditions had mostly rush-planted in order to utilize the soil moisture. For areas with somewhat deficient soil moisture, crops are planted either before or after moisture is added to the soil so as to ensure a full stand of seedlings after one sowing. In the entire province, there was more than 15 million mu of moist area before planting, and about 5 million mu had initial or follow-up watering after planting. Soil preparation for the autumn planting was more meticulous than past years and areas sown by mechanized means increased by 20 to 30 percent compared to last year. For areas that had irrigation facilities, rectangular pieces of land were widely built. In addition, various locations carried out the readjusting of variety distribution in line with different soils, fertilizers, irrigation and variety conditions, and did their best to make soil fertility and superior varieties match each other and make superior varieties and superior planting methods complement each other.

At present, 50 million mu of wheat fields throughout the province have emerged seedlings; seedling growth is generally better than last year. The broad commune members in the rural areas actively check seedlings in the fields, filling in seedlings where missing, spacing them where too dense, replanting where too sparse and irrigating and hoeing up weeds, determined to ensure full stands of healthy seedlings in order to lay a good foundation for next year's bumper wheat harvest.

10,424-R
CSO: 4007/47

SHANXI

MEASURES NEEDED TO DEVELOP MOUNTAINOUS REGIONS DETAILED

Taiyuan SHANXI RIBAO in Chinese 20 Oct 82 pp 1-2

/Article by Lo Guibo /5012 6311 3134/: "Creat a New Era in Mountainous Area Development"/

/Text/ The party's 12th congress confirmed the great guideline for an overall creation of a new phase of socialist modernization construction and proposed grand targets and strategic focuses for the party and the people as we march toward the 21st Century. The task before us is to perform effectively and creatively all aspects of work under the guidance of the spirit of the 12th Congress. It is necessary for Shanxi Province to realize the goal of quadrupling 1980's gross industrial-agricultural output value by the end of the century. One very important aspect is the necessity of hastening the process of construction of the mountainous regions. In the past two years, we carried out some surveys and studies in the mountainous regions. In this paper, we offer some preliminary suggestions for creating a new situation in constructing these mountainous regions.

I. There Should Be a High Degree of Strategic Recognition of the Importance of Constructing the Mountainous Regions in Creating a New Phase of Socialist Modernization Construction of Shanxi Province.

Since liberation, under the leadership of the party and government, the people of the mountainous regions of the province have carried out their excellent tradition of self-reliance and hard struggle and obtained obvious achievements in socialist construction. The appearance of these regions has changed and a group of advanced models have surfaced. Influenced by errors of leftism, however, there have been many policy defects to cause the construction procedure to be slow. The changes in some places are not great; the livelihood of the masses is difficult; the cultural education is extremely backward. Some comrades have thus built up a one-sided ideological understanding. They believe that mountainous regions are poor and backward and it is difficult to alter their appearance. They have no faith in changing the situation of the mountainous regions and no determination in constructing the mountainous regions. They feel insecure in their work. This type of one-sided understanding and emotional fear of hardship further affects the ideological liberation of some comrades and hence the progress of construction in the mountainous regions.

What is the role of construction of the mountainous regions in the total economic construction of the province in order to realize the goal of quadrupling the value of agricultural and industrial production? The magnitude of realizing the strategic goal should be concretely analyzed.

Judging from the factor of area, the region of the West Mountains and East Mountains alone amounts to 74.5 percent of the total area of the province. With the addition of other mountainous and hilly regions, they make up 80.3 percent of the total. It is certainly important to pursue the construction of the plain region but that would be like putting efforts in a mere 19.7 percent of the territory of the province. It is, therefore, not difficult to see the decisive role of the mountainous regions in the economic construction of the entire province.

Judging from the population density and per capita land under cultivation, the region of West Mountains averages only 69 persons per square kilometer, while the population density of the entire province is more than 2.2 times of that; that of the central basin is more than 4.5 times of that. In the West Mountains, the per capita land under cultivation is 4.56 mu, amounting to 1.5 times that of the entire province and 1.7 times that of the central basin. The large per capita available land and land under cultivation form an obvious characteristic of the mountainous regions and a very great advantage as well. We should be able to do a great job in this extensive area.

The province has rich mineral resources. There are many deposits of coal, aluminum, iron, copper, etc. It is especially gifted in its coal reserves to cause it to be known here and abroad as the "home of coal." An absolute majority of these mineral deposits are in the mountainous regions. The advantage of the province in coal reserves is the advantage of the mountainous regions, where the advantage of bio-resources is also very apparent. The province now has eight large forest districts and 55,660,000 mu of grasslands for grazing. These are distributed in the various mountainous regions. Many resources of wild animals are also worthy of attention. There are also numerous types of agricultural crops, species of trees, fruits, and animals. Compared with the plain region, the mountainous regions are unrivaled for developing agriculture, forestry, and animal husbandry, for mining mineral deposits, for the full utilization of various resources, for opening up new fields, and for diversified operation.

The construction of mountainous regions and that of the plains are very closely related. The so-called plains in the province are all basically basins surrounded by mountains. If mountainous regions are not well managed thus causing severe erosion of water and soil, the damage will inevitably spread to the plains and valleys. A low level production for the mountainous regions will be a drag on the construction of the plains. The construction of mountainous regions is important in changing the ecological environment of the entire province and in resolving the problem of nine drought years in a decade. The construction of mountainous regions and that of the plains and valleys have a mutually promoting relationship.

Shanxi is situated in the middle reaches of the Huanghe and the upper reaches of the Haihe. All major streams of North China have their origin in the mountainous regions of the province. Their construction may effectively control water and soil losses to guarantee the safety of the Huanghe and the Haihe and is especially important in reversing the dangerous situation of the dikes in the lower reaches of the Huanghe, which are becoming more endangered as they are being built higher and higher.

Meanwhile, it must also be noticed that the mountainous regions of Shanxi are the flank as well as the rear guard of the capital of the country. They have extreme strategical importance. They form an old region of revolutuion and have a glorious revolutionary tradition. The party has a good foundation there and the masses are highly awakened. This is a very favorable condition for constructing the mountainous regions well.

The above analyses reveal to us that the mountainous regions have rich resources, a very great potential, and a promising future. The development and construction of the mountainous regions to give them a prosperous economy are problems of strategic importance, related to the economy of the entire province. The one-sided understanding of the mountainous regions must be changed. There is no basis for the pessimistic attitude of thinking "the mountainous regions are difficult to alter."

After the 11th Plenum of the Third Party Congress, with the implementation of a series of goals and policies of the party, the construction of the mountainous regions has taken new strides. In these short three years, the problem of keeping the people warm and fed, unresolved for many years, has been basically resolved in a majority of these mountainous regions. In the two years of 1980 and 1981, the cultivated lands of the East Mountains, amounting to a quarter of the cultivated acreage of the province, produced a third of the province's grains. When giving full rein to the advantages of the mountainous regions, promoting the practice of diversification and auxiliary industries, the speed of development is most heartening; it allows us a glimpse of the bright future and provides us with fresh experiences in the construction of mountainous regions. Zuoyun County, situated beyond the Great Wall, had historically been regarded as barren and one of the notoriously poor counties of the mountainous regions. In 1978, the per capita distributed income of the county was only 57 yuan. After the 11th Plenum of the Third Party Congress, the various rural economic policies were seriously implemented. Starting from the reality of that locality, efforts were given to develop auxiliary industries. Commune-brigades constructed small coal-fired kilns causing the per capita income of the county in 1979 to jump to 121 yuan, doubling in a year's time. In 1980, it was further increased to 171.2 yuan, tripling that of 1978. In terms of the constant prices of 1970, and with the figure of 1978 as the base, the total value of agricultural and industrial products of the county had more than doubled by 1981, in the short period of three years. This is a miracle the people did not even dare to think about in the past, but had become a reality in such an ordinary county of the mountainous regions. The Shangzhangjiafen Brigade of that county fully developed its advantage of coal to raise its 1981 per capita distributed income to 1,208 yuan. The development of auxiliary industry promoted agricultural production to cause the per capita grain production to reach 820 jin; the development of oil crops and animal husbandry was also sizable. Shenci County of northwestern Shanxi is situated in a gap of windblown sand; the climate is very cold and the production condition inferior. Attention was given to take advantage of the local condition and grow flax. In 1979, the income from flax alone reached 5.6 million yuan, amounting to 50.5 percent of the total agricultural income. The per capita distributed income jumped from the 52 yuan of 1978 to 93 yuan. In 1980, the total income from flax further increased again to 1.15 million yuan and the per capita income to 133 yuan. The income of the county from diversified pursuits grew 139 percent from 1978 to 1981, averaging an annual increase of 33.7 percent for three years. Since the Third Party Congress, Anze County has made great strides in agricultural and diversified production. The average annual increase in agricultural production for the four years of 1977 to 1981 had been 15 percent, and 13.9 percent in industrial and agricultural production. The increase in diversified pursuits was 112.2 percent in 1981 compared with that of 1977, averaging an annual increase of 20.7 percent for four years. Xiyang County was deeply affected by leftism. In the past, although the grain production was relatively high, the development of diversification was slow and household sideline industries of the commune members were hacked away almost completely. The livelihood of the masses was not abundant. In the past two years, leftist errors were gradually corrected. As soon as the goals and policies of the party made contact with the masses, delightful changes occurred in just one to two years. The income from diversification increased 42 percent from 1978 to 1981 and per capita distributed income increased 21.9 percent. The per capita income from household sideline industries grew 200 percent. The number of specialty and key households developed very quickly in the mountainous regions of Shanxi in the past year. The per capita income of some households has reached 500 yuan; one thousand yuan in some households.

Changes have occurred in the mountainous regions since the Third Party Congress. This is only a preliminary revelation of the power of the party's goals and policies. The development and utilization of the resources of the mountainous regions have just begun. The rich treasure of coal, iron, copper, and aluminum deposits requires development, and the extensive areas suitable for afforestation and grassland construction are awaiting our efforts. Great potential remains in the development of the province's traditional native products and special economic crops. All these facts fully demonstrate that mountains are not an imprisoning "wrapper"; they are a treasure of great potential. If the industrial and agricultural product value of the province is to be quadrupled by the end of the century, the mountainous region will provide great contributions.

II. A Unified Formula That is Reasonable, Practicable, and Scientifically Based Must Be enacted.

Mountainous regions have many favorable conditions and great potentials, but they also have many unfavorable conditions and great difficulties, including a deficiency of vegetative cover, thin and poor soils on barren mountains, severe water and soil erosion, inconvenient transportation, backward culture and scientific technology. In the past, our understanding of the favorable conditions was deficient and we failed to utilize these conditions fully, neither were there systematic surveys and analyses of the unfavorable conditions. There was no idea about how to develop, protect, and enlarge the resources to develop the mountainous regions reasonably, nor was there a long term overall plan. The policy was this way this year and another way next year. All things were decided upon very blindly. Although there was planning in some places, the plans were constituted of several numerical indices without any scientific basis and without any means of implementation. In some places, every time a different secretary took over there was a different plan, impossible to keep up for very long. Since the 11th Plenum of the Third Party Congress, the majority of the places have given attention to schemes suitable for each locality. They have started to live off the mountains. But, some live off the mountains without nurturing and controlling them. There are even hijack-like operations to take care of the present without any long term consideration. They only see the local not the whole entity. There are, for example, serious phenomena of randomly chopping down trees or cropping any land anywhere. In some places, the area that is deforested and turned into cropland every year is larger than the afforested area. If this is allowed to go on, how can the problem of water and soil erosion be resolved? How can the ecological balance be protected?

If the favorable conditions of the mountainous regions are to be fully utilized to make fundamental changes in the appearance of the mountainous regions and create a new phase of their construction, a unified and reasonable plan with a scientific base must be enacted to start from the objective of realizing the strategy of quadrupling the total product value of industry and agriculture by the end of the century. An economic construction plan, based upon natural and economic principles, confirmed to meet the conditions of reality, and promised to bring the optimal economic benefits must be formulated.

The goal of economic construction of mountainous regions of Shanxi must be a gradual realization of self-sufficiency in grain supply and the development of forestry, animal husbandry, industry, and mining for mutual enhancement and overall development of diversified agriculture, forestry, animal husbandry, and sideline industry. The mountainous regions of the province cover vast areas of exceedingly diverse situations. As the natural conditions are different (especially in terms of weather, soil, ore deposits, etc.) there cannot be a forced uniformity in concrete methods. There cannot be arbitrary rules. Plans must be practical and based on the real condition. They must be suitable for a given locality and formulated to develop the local advantage.

If agricultural production and diversified operation are to develop in a great way, considerable efforts must be given to resolve the problem of water and soil erosion. Water and soil conservation is the life line of construction in mountainous regions and the basic measure of stream control. It is also the important content for repairing the country's lands and protecting her environment. Agricultural basic construction, therefore, must be attended to; forest and grassland coverage must be continuously enlarged to change the production conditions. There must be a consistent policy of regarding the soil as of the foremost importance to carry out comprehensive control measures for soil, water, and forests.

Judging from the lessons of many years of experiences and the present actual conditions, if construction plans of the mountainous regions are to be implemented well, the two following items are the most important:

(1) Surveys and researches should be emphasized to make general surveys of natural resources and agricultural regionalization the foundation of plan formulation. The various types of resources and the agricultural regionalization work must be performed well through intensive observation and scientific analyses to provide scientific bases for the reasonable development, utilization, and protection of the natural resources of the mountainous regions and the adjustment and arrangement of the structure of agricultural production. The construction of mountainous regions is not a singular problem of technical measures; it is also an economic problem. The poverty and backwardness of the mountainous regions are a compound reflection of the vicious cycle of ecology and economics. Comprehensive methods of treatment and control are, therefore, needed to develop the economy of the mountainous regions. There should be a unity of techniques and economics to combine all available energy to pursue the work of comprehensive survey and research and on the foundation of a good regionalization plan, an overall formula of constructing the mountainous regions should be enacted and included in the plan before a scheme of implementation is determined and are proposed.

(2) In the process of enacting the formula, the "four unities" should be observed. The current benefits must be united with long term benefits; benefits of individuals must be united with benefits of the collective body and benefits of the State; benefits of a part must be united with benefits of the whole; and economic benefits must be united with ecological benefits. Beneficial effects cannot be visible very soon. If the masses are not given visible material benefits, the masses will have no positive feelings, but if /we/ only care about present benefits and allow long term benefits to be injured, it will still be the collective body that will suffer the loss in the end and the masses will be the victim. It is necessary to have an overall, whole, and far reaching conception to take care the interests of the State, the collective, and the individuals. The correct handling of the relationship between the parts and the whole must be fully realized in the formula and at the same time careful attention must be given to the unity of economic benefits and ecological benefits. In some places, with a plunder-like operation, the local masses obtain some benefits for a time and the benefits may even be very great, but plunder-like operations are very destructive. For example, using the destruction of forests and grasslands to create cropland cannot bring about favorable production or ecological cycles. Destroying basic ecological benefits for current economic gain will never do. Of course, we cannot simply pursue ecological benefits without considering economic benefits. For some years, we carried out a number of activities to protect the ecological balance but these activities often were not linked with the actual benefits of the masses so that the masses were not very enthusiastic about them. It is necessary to explain the reasons to the farmers, to think about the overall situation, to take care of the long term benefits, and also to cause the standard of living of the farmers to be

somewhat improved year after year. The province has a long term /development/ formula and a short term one. With respect to the construction of the mountainous regions, there should also be a long term formula and a short term formula. A formula of the optimal benefit may be found only through overall consideration, looking forward as well as reviewing the past, combining long term benefits with short term benefits, and consistently uniting economic benefits with ecological benefits.

III. Thoughts Should be Further Liberated to Adopt a Flexible Policy, Unite All Sectors, and Boldly Start Constructing Mountainous Regions.

Since the 11th Plenum of the Third Party Congress, the economic policy for rural villages has become more relaxed and the masses have become much more positive. The construction of mountainous regions has become viable. Judging from the actual condition and trend of development at present, we must further liberate our thinking to broaden the policy and quicken the steps to make the mountainous regions rich, under the guidance of the spirit of the 12th party congress.

(1) Various forms of production responsibility systems must be used, especially the contract responsibility system, to extend them to broader realms to demonstrate fully the power of the policy and to boost the morale of the masses. In the mountainous regions of Shanxi, the system of "double contract" responsibility is being practiced in most places. The content of the contracts, however, involves mainly grain production. Many possible items have not yet been contracted. Contracts in all different forms should be made a major policy to be boldly implemented as quickly as possible. The farmers may contract a mountain, a ravine, a slope, or a small stream valley for treatment and control. Certain agricultural machines, the processing of agricultural by-products, and some auxiliary industries that are not very efficiently operated by communes and brigades can all be contracted by commune members, households, small teams, or an alliance of households. The form should be of no importance so that all those who have the skill and the ability to operate have an opportunity to demonstrate the talent. All types of planting, cultivating, and animal raising specialty households and key households should be developed and supported in a big way. There should also be scientific technology households, agricultural machinery households, purchasing and sales specialty households, transportation specialty households, etc. to introduce all types of specialty households to develop in the direction of specialization and commercialization. Practices have proved that if various forms of contract responsibility systems are boldly extended, there will be fast development of grain production, afforestation, grass planting, animal husbandry, and native products in the mountainous regions. Obvious effects may also be obtained in the construction of fields and water conservancy projects. Jiuxian Commune of Hequ County started to practice contracting small stream [illegible]ment and control to households. The contract household has six persor [illegible] h four of them able to work. The contracted stream valley had a total area of 250 mu. The contract stipulated a completion time of three years to produce benefits in five years. It has been a little over one year since the contract was signed and the preliminarily treated area has reached 70 percent of total, with an estimated production value of

3,000 yuan. There was one team in Lingqiu County which allowed commune members, apportioned among individuals and the collective, to contract for barren mountains and slopes. The tasks of tree planting and grass seeding originally to be completed in two years were finished in half a year. These experiences should be broadly extended.

(2) Mining and processing should be made into key industries of mountainous regions. Places of rich mineral resources should make the development of mining industry trigger the development of agriculture, forestry, and animal husbandry while the development of agriculture, forestry, and animal husbandry should be used to support the development of industries and mining to bring about an organic unity of development of industries, agriculture, forestry, and animal husbandry in the mountainous regions to fuse all into one. Many places of the mountainous regions of Shanxi have coal resources. This advantage should be utilized to develop local coal mines and commune-brigade coal kilns under the guidance of the State's plan. There should be comprehensive utilization of coal to develop small chemical fertilizer plants, small coking works, and other plants that use a lot of coal. At the same time, efforts should be given to construct small hydroelectrical power generation plants. Processing industries, food industries, etc. should be developed to utilize the advantages of the abundance of agricultural, forestry, animal husbandry, and native products. The mountainous regions have many favorable conditions for diversification such as bases of mulberry and silkworm, of oil crops of mainly flax and castor plant, or exportable potatoes, of red jujube, walnut, and haw, and of valuable Chinese traditional drugs and timber, etc. If industries for processing these products are developed, the economic values may be greatly raised. If specialty households and key households flourish they will be a vast potential for the development of processing industries. This type of new situation should call for suitable development of meat, dairy, and egg products, as well as leather processing, basket weaving, etc. Industries in the mountainous regions may be county-operated, collective-operated, or specialty household operated. All should be flexibly small and in numerous forms.

(3) Cultural, educational, and science and technology projects must be strengthened to develop talents in the mountainous regions. Talents will bring about new breakthroughs to create a new situation in the construction of mountainous regions. Investment in intelligence and the mining of talents should be emphasized. Mountainous regions should earnestly cultivate their own talents of all specialties. In the process of dispatching and transferring cadres and distributing graduates of colleges and special schools, the State should give support and special consideration to the mountainous regions.

Some special policies may be adopted to develop cultural, educational, and science and technology projects in mountainous regions. Special considerations may be given in terms of finance, materials, manpower, etc. to establish teachers colleges, public health schools, central hospitals, and cultural and science and technology centers. In the process of admitting students, the large specialty schools and middle institutes may make the standard a little lower for student-applicants of mountainous regions. The quotas of students, workers, and rehabilitated persons for mountainous regions should be suitably made higher. At present, the drain of educated persons is very serious in the mountainous regions. Many cadres do not feel secure working in mountainous regions. We should urgently create better work conditions for scientists, technicians, and other educated persons and cadres. As much as possible, the residential dwellings, offices, and laboratories should be made better to make it more convenient for them to work. There may also be plans to organize them to take trips outside the region to observe and learn so as to broaden their vision, increase their knowledge, and allow them to absorb advanced experiences. At the same time, we must be concerned with their illnesses and take care their needs. The problem of separate places of living for husband and wife among scientists and technicians should be the first to be resolved. For those whose family is in rural villages, the rules for residency transfer should not be as strict as those of the city. For cadres and workers going up the mountains to work, the method of providing a subsidy may be considered.

(4) Channels of circulation of the economy of mountainous regions should be expanded and increased in a big way. At present there are serious deficiencies in the network and facilities of commerce in these regions. There are too many intermediate links of transfer to prevent the flow of merchandise or to meet the needs of economic development. Improving the commercial structure and broadening the policy in commerce will mean expanding and increasing channels of trade in a big way to promote the development of merchandise economy. The rural supply and sales cooperative is the major channel of economic exchange between the city and the countryside. The system should be reformed to link the operation of the cooperative more closely to the economic benefits of the farmers. Some good operating procedures of the supply and sales departments should continue, but the role of the individual workers in the economy should be encouraged to develop in a suitable manner within the range of rules of the State and the administrative management of industries and commerce. Some people have the talent for doing business; it should be possible to allow them to operate "husband and wife" stores. There may be households specializing in purchase and sales, carrying the goods in baskets on their backs, on mules, or with bamboo poles to bring them up the mountains. In a word, there should be some flexibility in the manner of doing business to make the economy of mountainous regions a more open one.

(5) The construction of highways and power lines in mountainous regions should be given attention. In Shanxi, there remain, at present, 270 communes of 15,816 brigades not linked with highways and 68 communes of 7,032 brigades having no electrical power. Most of these brigades and communes are located in mountainous regions and a majority in distant mountains which were old bases of the revolution. If the problem of roads and power in these regions is not resolved, no matter how abundant the valuable treasures, and agricultural, auxiliary, and native products are, there will be no way to develop and utilize them fully, and no way to raise the standard of living of the people. This problem, therefore, should be resolved as soon as possible. The four branch railways of the mining districts that have been included in the plan should be constructed faster and there should be efforts in building highways to make every commune linked

with highways within three to four years. In the past year, 118 highways (segments) have been started and by the end of July this year 80 of these, totaling 972 km, were completed, amounting to more than 1/6 of the original mileage. The improved condition of transportation has greatly encouraged the development of economic construction. This is especially true with the commune brigades newly connected with highways where the income has doubled. In the southeastern part of Shanxi, the system of "civilian construction with public support" is the major practice. The method is "to have civilian workers perform the construction work under a unified formula and comprehensive control to divide the highway into segments and assign the task to the communes with the quantity of labor measured by the completion in cubic meters of dirt and stone." The commune-brigade highways are under a system of "local construction and maintenance, with some subsidy according to the actual condition. There is a unified command, with brigades signing contracts for different segments of the road and individual members taking on separate responsibilities and payment on the basis of work." This method has been effective and the other localities may follow their example. Furthermore, there are still some commune-brigades having difficulty supplying drinking water for men and animals. This problem should be resolved as soon as possible.

Problems of constructing highways and power lines and supplying drinking water, as well as the development of industries, cultural, educational, science and technology projects, afforestation, water conservancy engineering, constructing market towns and cities, etc. all require considerable amounts of capital investment. For some of the major items, the State may provide the necessary capital but all must depend mainly on the self-reliance policy of the local masses.

(6) The construction of market towns in mountainous regions must be emphasized. Market-towns form the center of cultural activities and the economic development of the people. They are extremely important for activating the market, increasing the channels of circulation, enlivening the cultural life, and changing the appearance of these mountainous regions. Original towns must be further improved through strengthened management and construction. Plans should be formulated to establish more towns on the bases of the population, transportation, cultural and economic exchange, geographical and traditional conditions. Wherever suitable, these additional towns should be built with various service facilities including cultural, educational, scientific, technological, medical and public health establishments. The establishment and construction of towns should be carried out through the organization of the local masses and some small collectives, individual households, and alliances of households may be developed. Meanwhile, there should be formulas to strengthen the construction of county seats to make them into truly the political, economic, and cultural center of that county.

(7) A unified and harmonious leadership should be strengthened to encourage positiveness of all sectors. We have a multi-faceted policy. All departments and all systems are regulated by a series of policies while these policies are enacted as a unified whole. In the concrete process of carrying out these policies, some comrades often emphasize one aspect of the policy only

to overlook other aspects. They administer only the policy of their own department or system and do not care about related policies and regulations of other departments and other systems. Each of them persistently maintains his own view to put each other down. In the process, many problems fail to be resolved. The farmers have difficulty in obtaining real benefits and their positive feelings are dampened, adversely affecting the construction of mountainous regions. We must strengthen a unified leadership to make the comrades of all departments and all systems understand correctly so as to implement all the goals and policies of the party in their entirety, to work harmoniously, and to encourage fully all sectors to be positive in constructing the mountainous regions together.

6248
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EFFECTS OF RESERVOIR WATER, SOIL CONSERVATION ANALYZED

Xian SHUITU BAOCHI TONGBAO [BULLETIN OF SOIL AND WATER CONSERVATION] in Chinese No 4 Jul-Aug 82 pp 10-12

[Article by Chen Manchang [7115 3341 0221] of the Xinxian Prefecture Water and Soil Conservation Bureau of Shanxi Province: "Analysis of the Benefits of Water and Soil Conservation Measures at the Upper Reaches of the Fenhe Reservoir and Opinions On Measures of Treatment"]

[Text] I. Basic Situation and Present Situation of Treatment

The Fenhe River Valley in Xinxian Prefecture in Shanxi Province is at the upper reaches of the Fenhe Reservoir and includes the two counties of Ningwu and Jingle. There are 44 communes and a population of 227,000. The total area is 5,925,000 mu. Fenhe originates at Lingzhi, the source of Fen River on Guangcenshan in Ningwu County. The river extends 80 kilometers and exits at Wanzi Brigade in Jingle County. Along the way are 15 relatively large tributaries (Huaidao, Ximafang, Xinbao, Minghe, Dongzhanhe and Xizhanhe, etc.) which flow into the Fen River. The area of the river valley in Xinxian Prefecture is 4,817,000 mu, constituting 81.3 percent of the total area. The average runoff over many years is 315 million cubic meters and the flow is 8.2 seconds-cubic meter. The geomorphological types are mostly mountainous areas of earth and rock and loess hilly regions at an elevation of 1,140 to 2,772 meters. Throughout the prefecture, soil erosion has affected an area of 3,305,000 mu, constituting 68.6 percent of the total area of the river valley. According to actually measured data over many years compiled by the Shahui Hydrological Station in Jingle County, about 316 million tons of fertile soil had eroded away from 1951 to 1980. Over the past 22 years since completion of the Fenhe Reservoir, silting has filled 292,000,000 cubic meters of the reservoir capacity, constituting 41.7 percent of the total reservoir capacity. The amount of mud and sand carried from this prefecture has totaled about 177 million tons, constituting 46.54 percent of the silted reservoir capacity. If this continues, then after 20 years or so, the Fenhe Reservoir will be filled by silt. This will not only create difficulties for the people and for industry to use the water, over 1 million mu of waterlogged land will become arid land. Therefore, serious soil erosion not only reduces and destabilizes the output of food grains, it also seriously threatens the development of industrial and agricultural production at the lower reaches.

After founding of the nation, and especially since the Party's Third Plenum, the broad number of cadres and masses within the river valley have grasped water and soil conservation work as the lifeline for production in the mountain regions, and they have developed water and soil conservation work in a big way. Up to the end of 1980, soil erosion over a total of 604,600 mu within the river valley has been controlled, constituting 19.4 percent of the area suffering from soil erosion. In this area, there are 38,700 mu of terrace fields, 9,600 mu of flatland, 52,000 mu of beaches, 32,700 mu of artifically dried flatland, 274,000 mu of forested land, 180,000 mu of mountain land closed for cultivating forests, 17,600 mu of land planted with grass, 200 kilometers of river with dams, 1,600 silt dams, and 1,500 dredged canals. These projects control a total area of 1,370,000 mu of eroded land, constituting 41.5 percent of the eroded area.

II. Analysis of the Results of Treatment

The method of analysis by analytical calculations is based on actually measured data over many years compiled by the Shahui Hydrological Station in Jingle County, on typical surveys and on data compiled and achievements realized in studying the benefits from controlling soil erosion under various conditions. Rainfall and the actual benefits of water and soil conservation realized by the various water and soil conservation projects were taken into consideration. To reduce the incidental nature of using a single year's data as control data, the method of using averages over many years was used.

1. Benefits From Reducing Sand Erosion

The average annual rainfall in the river valley was 490.2 millimeters during the 1950s, 489.7 millimeters during the 1960s, and 453.77 millimeters during the 1970s. The average annual loss of mud and sand actually measured by the Shahui Hydrological Station during the 1950s amounted to 11.02 million tons. The average annual loss of mud and sand during the 1960s was 9.35 million tons, and the average annual loss of mud and sand during the 1970s was 5.96 million tons. It can be seen that the amount of rainfall during the 1970s was less than that during the 1960s by 7.3 percent and the amount of mud and sand erosion dropped by 36.3 percent. The amount of rainfall during the 1970s was less than the amount of rainfall during the 1950s by 7.4 percent while the amount of mud and sand erosion dropped by 46 percent. These fully show that as the area of water and soil conservation efforts increases, the benefits in reducing the amount of sand erosion becomes greater. During the 1970s, 5.06 million tons less mud and sand were carried into the Fenhe Reservoir each year, equivalent to five 1-million cubic meter mud detaining reservoirs requiring an investment of over 2 million yuan.

The following is an analysis of the benefits of detaining mud by individual water and soil conservation measures:

In terrace fields, the benefits of reducing sand erosion could reach 80 percent. The amount of sand erosion reduced per mu was 3.2 tons, and a total of 123,500 tons of sand erosion was reduced, constituting 2.3 percent of the total amount of sand erosion reduced.

In flatland, each year, 220 tons of mud and sand could be retained per mu and a total of 2,115,000 tons was detained, constituting 39.8 percent of the amount of sand erosion reduced.

On beaches, silting reached 0.1 to 0.3 meters per mu and 210 tons of mud and sand could be retained. All of the beaches could retain 2,131,400 tons each year, constituting 40 percent of the amount of sand erosion reduced.

In arid flatland, 2.8 tons of mud and sand erosion could be reduced per mu and a total of 92,700 tons of erosion was reduced, constituting 1.7 percent of the total amount of sand erosion reduced.

Forestation and closing of the mountains to cultivate forests covered 454,000 mu, and 1.87 tons of mud and sand erosion could be reduced per mu. A total of 849,300 tons of mud and sand erosion was reduced, constituting 16 percent of the total amount of sand erosion reduced.

Grazing grasses were planted over 17,600 mu, and 0.65 ton of mud and sand erosion could be reduced per mu. A total of 12,100 tons of erosion was reduced, constituting 0.2 percent of the total amount of sand reduced.

2. Benefits of Increased Output

In 1949, the two counties in the Fenhe River Valley produced 64.89 million jin of food grains. In 1980, the output of food grains reached 97.86 million jin, an increase of 50.8 percent. The per mu yield increased from over 60 jin to 117.5 jin, an increase of nearly onefold. Jingle County produced a total of about 429 million jin of food grains during the 1950s, 423 million jin of food grains during the 1960s, and about 537 million jin of food grains during the 1970s. Now, the output is 25.27 percent over that of the 1950s and 37.13 percent over that of the 1960s. The increased output of food grains stimulated the development of various professions. For example, compared to 1949, the number of large domesticated animals in Ningwu County increased 77 percent, the number of hogs increased by more than eightfold, and the number of sheep increased 3.5 times.

3. Increase in Income

In 1949, the total agricultural production value was 9.44 million yuan. By 1949, this reached 20.47 million yuan, an increase of 1.16 times. The total income of Jingle County during the 1950s was 61,689,000 yuan, the income during the 1960s was 79,737,000 yuan, and the income during the 1970s was 160,098,500 yuan. Compared to the 1950s, total income realized a growth of 1.6 times and compared to the 1960s, it grew 1.0 times.

4. The Agricultural Structure Is Being Transformed In a Good Direction

In 1949, the area of forest land was only 32,000 mu, constituting 0.54 percent of teh total area of land. At present, forest land has already reached 548,400 mu, constituting 9.76 percent of the total area, an increase of 18 times.

In the production value structure, the agricultural production value in 1949 was 6,616,000 yuan, constituting 70 percent of the total production value. In 1980, the agricultural production value was 11,880,000 yuan, constituting 58 percent of the total production value. The percentage of income from other professions increased from 30 percent in 1949 to 42 percent in 1980.

Summarizing the above analysis, we see that the construction of water and soil conservation projects has stimulated the development of various endeavors, and the rate of development of each profession and the rate of construction for water and soil conservation are closely related. In 1972, treatment of eroded areas covered 418,800 mu. By 1980, the area treated reached 763,400 mu. The area treated in 8 years constituted 82 percent of that over the past 23 years. The average rate of treatment was 2.47 times that of the past 23 years, an increase of 1.47 times in the rate of treatment. The efficiency of reducing sand erosion reached 46 percent. The output of food grains increased 50.8 percent, and income rose 1.16 times. This fully shows that water and soil conservation is the lifeline of production in the mountain regions.

5. Analysis of Benefits From Investment

Take Jingle County as an example, during the 10 years from 1971 to 1980, the investment in water and soil conservation was 1,914,000 yuan, and a total of 226,000 mu of eroded area was treated, an average per mu investment of only 8.47 yuan. This included 62,000 mu of basic farmland, a per mu investment of about 17 yuan. Comprehensive analysis shows that every yuan of investment could keep 1.7 tons of mud and sand from entering the Yellow River each year and increase the output of food grains by 6 jin. During the 9 years from 1972 to 1980, investment in water conservancy amounted to 6,015,000 yuan. The area of waterlogged land increased from 18,100 mu to 32,700 mu. The area of guaranteed irrigation amounted to only 25,500 mu, and the area irrigated increased by 14,600 mu, an average per mu investment reaching 412 yuan. Every yuan of investment produced an increased yield of 1 jin of food grains. Investment to develop one mu of irrigated land can control 48.6 mu of erosion or build several dozen mu of basic farmland. It can thus be seen that in order to fully develop the benefits of investment in the mountain regions so that the farmers can quickly become rich, the investment must be placed in water and soil conservation, and investment in water and soil conservation must be increased.

III. Opinions Concerning Future Management Work

1. Rapid Greening of the Mountain Regions Must Follow The Road of "Combining Closing and Planting". After this survey and analysis, we believe "combining closing and planting" is an effective way to rapidly green the mountain regions. Combining closing and planting involves first planting a small number of parent trees and then closing the region and utilizing the ability of self propagation to realize a canopy rapidly. Places that already have parent trees need only be closed well. This method can realize the goal of rapidly greening the mountain regions with less investment, work and within a shorter time. Especially when the state's financial strength is insufficient and when the farmers have not become rich, this is the best measure. In Jingle County, the cost of closing one mu of land in the mountains to cultivate forests is

only 0.3 yuan, 1/20 the investment required for artificial forestation and the results are good. According to surveys conducted by the Wangmingtan Brigade, as long as the responsibility system is implemented well, as long as management is strengthened, a canopy can be created in 2 to 3 years and the trees will mature in 7 to 8 years. An actual piece of land inspected was 6 fen in area. It originally had 42 poplar trees. After closing the area for two years 124 trees grew up and the density reached 276 trees per mu and 20 to 100 centimeters in height. At places without parent trees, about 40 trees can be planted per mu. The investment is only 1/8 that for artificial forestation. Practice proves that closing the mountains to cultivate forests should be grasped as a strategic measure. The practice of not including the area of mountains closed for forestation in the area treated and neglecting the closing of mountains to cultivate forests must be corrected. The method of closing mountains to cultivate forests not only can be popularized in mountain regions of soil and rock, but according to surveys and analysis by the Nanshawa Brigade of the Nanqugou River Valley in Hequ County, it can also be popularized in a big way in loess hilly regions and hilly and ravine areas after implementing definite technical measures. As long as the leadership at each level pays attention to this, it will open up a new way to rapidly green the mountain regions.

2. We must develop diversion of flood water to silt the land in a big way. In recent years, engineering measures have placed more emphasis on building silt dams and terrace fields and have neglected the diversion of flood water to silt the land. We should suit measures to local circumstances and implement various engineering measures based on the natural geographical superiority at each locality. At places with favorable conditions for diverting flood water to silt the land, we should build dams to silt the beaches as the main effort. The reasons are as follows:

(1) Diverting flood water to silt the land can create more cultivated land with less work and it is an engineering measure that conserves work and produces a great result. The river beaches in the Fenhe River Valley are wide and the potential for silting the land is great. The masses already had the custom of building dams to silt the beaches a long time ago. This work should be developed in a big way.

(2) The comprehensive benefits of reducing sand erosion and increasing output are good. The amount of mud and sand erosion reduced during the 1970s and retained by beaches constitute 40 percent of the total amount of sand erosion reduced. The beaches silted can guarantee increased output that year. The per mu yield of beaches has already reached about 500 jin. If they are built into garden fields, the yield can reach 800 jin. In Jingle County alone, there are 5 communes, 66 brigades and 32,000 people on the two banks of Fen River. According to plans, the beaches can add up to 122,000 mu. Here the topographical conditions are similar to those of a winding ravine. If a winding ravine type brigade that "has a ready source of money behind it and that embraces a valley of rice and food grains" is established, Jingle County will be able to quickly produce high and stable yields of food grains.

(3) Diversion of flood water to silt the land is beneficial to unified planning and full line operation. Building dams to divert flood water and silt the land can be carried out in stages and can be controlled by sections. Diverting flood water to silt the land in sections can adapt to topographical and geological conditions. The results are fast and good, and the soil layer can be thickened by layers year after year. This increases output and retains mud. As the beaches retain mud year after year, the effect of reducing sand erosion by biological measures will increase year after year. This combines long-term and short-term efforts, and it can realize the strategic goal of relying on engineering measures in the current year while basically relying on biological measures.

(4) We have more mature experience in the techniques of building dams. At present, there are the structural forms of masonry and mortar rock dams, masonry rock dams, mixed engineering and biological dams, and thin wall concrete slab dams. They are convenient to build and easy to popularize.

Therefore, we must emphasize engineering measures to build river dams and divert flood water to silt the land and rapidly change the situation of neglecting them.

9296
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TECHNICAL SERVICES AVAILABLE IN RURAL SICHUAN

OW291204 Beijing XINHUA in English 0735 GMT 29 Dec 82

[Text] Chengdu, 29 Dec (XINHUA)--A system of providing technical services to peasant households has been developed in Sichuan Province, which has pioneered many of the country's agricultural reforms.

Peasant households wanting technical help may sign contracts with government agro-technicians or local peasant experts for regular explanations, lectures or demonstrations.

The agro-technicians and experts work out of newly established commune agro-technical service centers, which are financially responsible for any losses caused by misadvice. Payment is based on the farming area serviced, in general 4.5 to 7.5 yuan per hectare, or made according to terms in the contracts.

According to the provincial government, such services have been established in 157 counties for 879,000 hectares, or 13.2 percent of the province's farmland. The system arises from new agricultural policies, called the job responsibility system. Under the system, the majority of the province's peasant families contract with their collectives for farm production, and are allowed to retain whatever is left after tax delivery, fulfillment of state purchase quotas and payment to the collectives of public accumulation and welfare funds.

Government seed and fodder companies supply peasants with hybrid rice and maize seeds, though those peasants who want to propagate seeds themselves may turn to the service stations for help.

More than 10 percent of the peasant households in Sichuan, with a population of 99 million, are "specialized families," devoting most or a considerable part of their time to sideline production. The service stations contract with such households for a wide range of highly technical jobs, including animal and poultry breeding, fish culture, sericulture, beekeeping, tea growing and horticulture.

Most of the agro-technicians are college or secondary agricultural school graduates, and peasant experts must pass tests to quality for work in the service.

CSO: 4020/37

SICHUAN BUMPER HARVEST REVEALED

Chengdu SICHUAN RIBAO in Chinese 26 Aug 82 p 1

[Article by the Sichuan Bureau of Statistics: "Under the Guidance of the Spirit of the Third Plenum of the Party, Our Province's Agriculture Realized Consecutive Bumper Harvests; For Three Years, the Total Agricultural Production Value of the Whole Province Averaged an Annual Increase of 6.4 Percent, The Production Value From Diversification Grew 11.1 Percent, According to Sample Family Surveys, the Economic Income of Farmers in 1981 Increased 73.9 Percent Over 1978"]

[Text] Since the Third Plenum of the Party, our province's agriculture realized consecutive bumper harvests. The output of food grains continually increased, diversification developed rapidly, and the situation in all farm villages is still prosperous.

In 1981, our province suffered an especially large flood not encountered in a century. The whole province's agriculture still realized increased output. The total agricultural production value reached 20.94 billion yuan, an increase of 20.6 percent over 1978. The annual average growth over the last three years was 6.4 percent, far surpassing the average growth of 3.6 percent over the past 32 years since the founding of the nation. Over the past three years, food grain production grew steadily. In 1981, the total output of food grains throughout the province reached 69.31 billion jin, an increase of 8.4 percent over 1978. The average per capita output of food grains increased from 534 jin in 1976 and 661 jin in 1978 to 702 jin in 1981.

While food grain production continued to increase, diversification also realized rather quick development. In the total agricultural production value of 1981, the production value of diversification besides food grains reached 10.66 billion yuan, an increase of 37.2 percent over 1978 constituting an average annual growth of 11.1 percent. Many diversified products developed very quickly. Comparison between 1981 and 1978 showed that the output of rapeseed grew 88.5 percent, the number of hogs leaving the pens increased 54.4 percent, tea production increased 21.6 percent, silkworm cocoons increased 72.6 percent, the yield of fruits increased 47.7 percent, and aquatic products increased 25.6 percent. The revenue from Chinese herbs sold by the farm villages to the commerce departments increased 13 percent, and the total income of commune and brigade enterprises increased 131.7 percent.

As the distribution of crops becomes more rational, and as agricultural science and techniques are popularized widely, the unit area yield of all crops has also increased year by year. In 1981, the average per mu yield of paddy rice reached 699 jin, an increase of 14.4 percent over 1978. The average per mu yield of rapeseed reached 192 jin, an increase of 20.8 percent over 1978. The average per mu yield of sugarcane reached 4,897 jin, an increase of 12.8 percent over 1978.

Over the past three years, agricultural production developed very quickly while the cost of agricultural production dropped in relation. The economic benefits are becoming better. The production cost of the basic accounting unit of the people's commune in the farm villages throughout the province as a percentage of total income dropped from 35 percent in 1978 to 31.6 percent in 1981. Because of the development of agricultural production and the increase in economic benefits, and with the large scale increase in the state's procurement prices for agricultural sideline products, the broad number of farmers received more actual benefits. According to a survey of the income and expenditure of 2,229 farm families, the average economic income of each farmer in 1981 registered an increase of 73.9 percent over 1978.

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INCOME INCREASES FOR XIZANG PEASANTS, HERDSMEN

OW122026 Beijing XINHUA in English 1502 GMT 12 Jan 82

[Text] Lhasa, 12 Jan (XINHUA)--Annual income from the collective sector for Tibetan herdsmen and peasants averaged 220 yuan per capita in 1982, 93 yuan more than in (?1939) before the central authorities decided to implement special policies in the Tibet Autonomous Region.

"The goal of bringing about initial changes to Tibet in three years has been achieved," said Yin Fatang, first secretary of the Tibet Regional Committee of the Chinese Communist Party, at a recent work conference of the committee.

Three years ago, about 20 percent of the households in Tibet depended on government relief for a living. The figure dropped to three percent last year, he said.

During an inspection tour of Tibet in May 1980, two top party leaders, Hu Yaobang and Wan Li, called upon local people to bring about initial changes in Tibet in two or three years, to top Tibet's highest known living standards in the coming five or six years, and within ten years, to achieve a massive development of Tibet's economy and sharp rise in the living standards of its people.

The two leaders called for a (?rally) of recuperation for Tibet which, having survived the disastrous "cultural revolution," was then having grave difficulties.

The 1982 income for herdsmen and peasants exceeded 200 yuan per capita in 51 of Tibet's 75 counties, 300 yuan in 12 counties, and 400 yuan in three counties.

Income average 100 yuan per capita for herdsmen and peasants in nine Tibetan counties.

China's rural and pastoral areas, households with an annual income of 200 yuan per capita are considered well off. [sentence as received]

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BRIEFS

XIZANG GRAIN, LIVESTOCK BASES--Lhasa, 15 Nov (XINHUA)--Tibet is setting up 12 bases for producing marketable grain and livestock at the middle and lower reaches of the Yarlung Zangbo River. The bases will be developed to expand commodity grain and meat production for minority nationalities and accelerate farming and animal production, the autonomous regional government said. The government will invest 10 million yuan each year for these bases from this year to 1985. Officials, scientists and technicians will be sent to these areas to conduct research in agriculture and animal husbandry and work out an economic development program. The two livestock bases, located along the Qinghai-Tibet Highway, have 4 million hectares of usable grassland with 1.6 million head of livestock, averaging 30 head per person. The 10 grain bases, located on the northern slopes of the Himalayas and middle and lower reachers of the Yarlung Zangbo River and its tributaries, have a total of 56,000 hectares of cultivated land. [Text] [Beijing XINHUA in English 0711 GMT 15 Nov 82 OW]

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